

NASA Contractor Report 179468
UTRC-R86-956480-3

1N-07

DATE OVERRIDE

The Effects of Inlet Turbulence and Rotor Stator Interactions on the Aerodynamics and Heat Transfer of a Large-Scale Rotating Turbine Model

III—Heat Transfer Data Tabulation 65% Axial Spacing

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May 1986

Prepared for
Lewis Research Center
Under Contract NAS3-23717

(NASA-CR-179468) THE EFFECTS OF INLET
TURBULENCE AND ROTOR/STATOR INTERACTIONS ON
THE AERODYNAMICS AND HEAT TRANSFER OF A
LARGE-SCALE ROTATING TURBINE MODEL. VOLUME
3: HEAT TRANSFER DATA TABULATION 65 (United

N88-28930

Unclas

G3/07 0166289



National Aeronautics and
Space Administration

Date for general release

May 1988

SUMMARY

A combined experimental and analytical program was conducted to examine the effects of inlet turbulence on airfoil heat transfer. The experimental portion of the study was conducted in a large-scale (approximately 5X engine), ambient temperature, rotating turbine model configured in both single stage and stage-and-a-half arrangements. Heat transfer measurements were obtained using low-conductivity airfoils with miniature thermocouples welded to a thin, electrically heated surface skin. Heat transfer data were acquired for various combinations of low or high inlet turbulence intensity, flow coefficient, first-stator/rotor axial spacing, Reynolds number and relative circumferential position of the first and second stators. Aerodynamic measurements obtained as part of the program include distributions of the mean and fluctuating velocities at the turbine inlet and, for each airfoil row, midspan airfoil surface pressures and circumferential distributions of the downstream steady state pressures and fluctuating velocities. Analytical results include airfoil heat transfer predictions produced using existing two-dimensional boundary layer computation schemes and an examination of solutions of the unsteady boundary layer equations. The results of this program are reported in four separate volumes. All four have a common report title and the following volume subtitles:

REPORT TITLE: THE EFFECTS OF INLET TURBULENCE AND ROTOR/STATOR INTERACTIONS
ON THE AERODYNAMICS AND HEAT TRANSFER OF A LARGE-SCALE ROTAT-
ING TURBINE MODEL

VOLUME TITLES: VOLUME I:	R86-956480-1	FINAL REPORT
VOLUME II:	R86-956480-2	HEAT TRANSFER DATA TABULATION 15% AXIAL SPACING
VOLUME III:	R86-956480-3	HEAT TRANSFER DATA TABULATION 65% AXIAL SPACING
VOLUME IV:	R86-956480-4	AERODYNAMIC DATA TABULATION

THE EFFECTS OF INLET TURBULENCE AND
 ROTOR/STATOR INTERACTIONS ON THE AERODYNAMICS
 AND HEAT TRANSFER OF A LARGE-SCALE
 ROTATING TURBINE MODEL
 III - HEAT TRANSFER DATA TABULATION
 65% AXIAL SPACING

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INTRODUCTION

The primary basis currently used by the gas turbine community for heat transfer analysis of turbine airfoils is experimental data obtained in linear cascades. These data have been very valuable in identifying the major heat transfer and fluid flow features of turbine airfoils. The question remains, however, as to how well cascade data translate to the rotating turbine stage. It is known from the work of Lokay and Trushin (Ref. 1) that average heat transfer coefficients on the rotor may be as much as 40 percent above the values measured on the same blades without rotation. Recent work by Dunn and Holt (Ref. 2) supports the conclusion of Ref. 1. It is widely recognized that at this time a need exists for a set of heat transfer data from a rotating system which is of sufficient detail to allow careful local comparisons between static cascade and rotor blade distributions. It is important that this data set include sufficient flow field documentation to support the computer analyses being developed today.

Other important questions include the impact of both random and periodic unsteadiness on both the rotor and stator airfoil heat transfer. The random unsteadiness arises from stage inlet turbulence and wake generated turbulence and the periodic unsteadiness arises from blade passing effects. A final question is the influence, if any, of the first

stator row and first stator inlet turbulence on the heat transfer of the second stator row after the flow has been passed through the rotor.

OBJECTIVES

The first program objective has been to obtain a detailed set of heat transfer coefficients along the midspan of a stator and a rotor in a rotating turbine stage (Fig. 1). The experimental program was designed such that the rotor data could be compared directly with data taken in a static cascade. The data are compared to a standard analysis of blade boundary layer heat transfer which is widely available today. In addition to providing this all-important comparison between rotating and stationary data, this experiment provides important insight to the more elaborate full three-dimensional programs being proposed for future research. A second program objective has been to obtain a detailed set of heat transfer coefficients along the midspan of a stator located in the wake of an

upstream turbine stage. Particular focus here was on the relative circumferential location of the first and second stators. Both program objectives were carried out at two levels of inlet turbulence. The low level was on the order of 1 percent while the high level of approximately 10 percent is more typical of combustor exit turbulence intensity. The final program objective is to improve the analytical capability to predict the experimental data.

DESCRIPTION OF EXPERIMENT

1. Turbine Facility

All experimental work for this program was conducted in the United Technologies Research Center Large Scale Rotating Rig (LSRR). This test facility was designed for conducting detailed experimental investigations of flow within turbine and compressor blading. Primary considerations were to provide a rig which would: (1) be of sufficient size to permit a high degree of resolution of three dimensional flows, (2) possess a high degree

of flexibility in regard to the configurations which can be tested, and (3) enable measurements to be made directly in the rotating frame of reference.

The facility is of the open circuit type with flow entering through a 12-ft diameter inlet. A 6-in. thick section of honeycomb is mounted at the inlet face to remove any cross flow effects. The inlet smoothly contracts the cross section diameter down to 5 ft. Flow is then passed through a series of three fine mesh screens to reduce the turbulence level. Immediately downstream of the screens is a telescoping section which slides axially and permits access to the test section. The test section consists of an axial series of constant diameter casings enclosing the turbine, compressor or, fan model assemblies. The casings are wholly or partially transparent, which facilitates flow visualization and laser-Doppler-velocimeter studies. The rotor shaft is cantilevered from two downstream bearings thus providing a clean flow path to the most upstream row of test airfoils. Axial length of the test section is 36 in. The rotor is driven or braked by a hydraulic pump and motor system which is capable of maintaining shaft speeds up to 890 rpm. Downstream of the test section

flow passes through an annular diffuser into a centrifugal fan and is subsequently exhausted from the rig. A vortex valve is mounted at the fan inlet face for flow rate control.

2. Airfoil Coordinates and Aerodynamics

The surface midspan coordinates of the three airfoil rows (first stator and rotor and second stator) are given in Tables 1, 2 and 3 respectively.

The aerodynamic documentation of the turbine stage indicated that all parameters were very close to data obtained during prior testing with this turbine model, Ref. 3. As an example, the stator and rotor pressure distributions are shown in Figures 2a, 2b and 2c at the design flow coefficient ($C_x/U_m=0.78$). Agreement with a two dimensional potential flow calculation at this midspan location is excellent. The computed surface velocity distributions are used as the input to the suction and pressure surface boundary layer calculations.

3. Inlet Turbulence

As part of the present contract heat transfer distributions through the LSRR turbine blading were examined for both low and high levels of inlet turbulence. Throughout this report the low and high levels are referred to as "grid out" and "grid in" respectively. With the test facility configured in the minimum inlet turbulence arrangement (grid out) the inlet turbulence was approximately 0.5% at an axial location 22% of axial chord ahead of the first stator leading edge. Higher levels of inlet turbulence were produced by installing a biplane grid upstream of the first stator. The turbulence generator consisted of a nearly square array lattice of three concentric rings spaced uniformly in the radial direction with 80 radial bars evenly spaced circumferentially. Both the rings and radial bars were of nearly square 1/2 inch cross-section. The mesh spacing of the bars was 2.1 inches radially and 4.5 degrees (2.1 in. at mid-annulus) circumferentially. With the grid installed at the inlet turbulence intensity was typically 9.8%. The spanwise distributions at four different circumferential locations (relative to the stator leading

edge) are shown in Fig. 3. The data indicate that the turbulence is spatially uniform, nearly isotropic, and temporally (long time average) steady. This is representative of the level of turbulence measured at the exit of aircraft gas turbine combustors.

4. Heat Transfer Instrumentation

Heat transfer measurements were obtained in this study using low conductivity rigid foam castings of the test airfoils. A uniform heat flux was generated on the surface of the foam test airfoils using electrically heated metal foil strips attached to the model surface. Conduction and radiation effects produced small departures from complete uniformity. Local airfoil surface temperatures were measured using thermocouples welded to the back of the foil while the air temperature was measured using thermocouples in the air stream. The secondary junctions to copper wire were all made on Uniform Temperature Reference blocks (Kaye Instruments, UTR-48N) and the data were recorded using a Hewlett-Packard 300 channel

data aquisition unit (3497A/3498A), and an ice point reference (Kaye Instruments, K140-4). A 212 ring slip-ring unit (Wenden Co.) was used to bring heater power onto the rotor and to bring out the thermocouple data.

Instrumentation locations for the three airfoils are given in Figures 4a, 4b and 4c.

GUIDE TO DATA PRESENTATION

In Appendices I (15% axial spacing data) and II (65% axial spacing and 1 1/2 stage data) the data are presented in a series of "sets". Each "set" consists of the heat transfer data for a single airfoil (stator or rotor) for a particular test condition (some combination of flow coefficient, Reynolds number, axial spacing and inlet turbulence level). Each set consists of four plots: (1) the midspan Stanton number distribution, (2) a highly expanded plot of the Stanton number distribution in the leading edge region and (3) & (4) plots of the spanwise distributions of the Stanton number on the pressure and suction surfaces. Also given are tabulated val-

ues of the Stanton and Nusselt numbers as well as the measured wall temperature data. The form of the data is slightly different for the stators and rotor for reasons related to the rotor slip-ring wiring arrangement. Each stator data set is identified by a single six digit label e.g. R_P__ (RUN_POINT__). Slip ring limitations required that a complete set of rotor data be combined from two subsets e.g. R_P__-R_P__. A guide map to the data sets of Appendix II is given in Figure 5. The order of presentation of the data sets in this appendix proceeds sequentially following the order from top to bottom given in Figure 5.

NOMENCLATURE

SYMBOL	QUANTITY	UNITS	
		ENGLISH	SI
BX	AXIAL CHORD	IN	CM
CX	AXIAL VELOCITY COMPONENT	FT/SEC	M/SEC
K	AIR THERMAL CONDUCTIVITY	BTU/HR-FT-°F	JOULE/M-SEC-°C
Q-NOM	NOMINAL SURFACE HEAT FLUX	BTU/FT ² -SEC	KWATT/M ³
RHO-EXIT	DENSITY AT AIRFOIL TRAILING EDGE	LBM/FT ³	KILOGRAM/M ³
S	SURFACE DISTANCE	IN	CM
TT	TOTAL TEMPERATURE AT AIRFOIL LEADING EDGE	°F	°C
Um	AIRFOIL VELOCITY AT MIDSPAN	FT/SEC	M/SEC
U-EXIT	AIR VELOCITY RELATIVE TO AIRFOIL AT TRAILING EDGE	FT/SEC	M/SEC
U'	VELOCITY FLUCTUATION	FT/SEC	M/SEC
X	AXIAL DISTANCE	IN	CM
Y	CIRCUMFERENTIAL DISTANCE	IN	CM

REFERENCES

1. Lokay, V. I., and Trushin, V. A.: Heat Transfer from the Gas and Flow-Passage Elements of a Rotating Gas Turbine. Heat Transfer - Soviet Research, Vol. 2., No. 4, July, 1970.
2. Dunn, M. G., and Holt, J. L.: The Turbine Stage Heat Flux Measurements. Paper No. 82-1289, AIAA/ASME 18th Joint Propulsion Conference, 21-23, June, 1982, Cleveland, Ohio.
3. Dring, R. P., Joslin, H. D., Hardin, L. W. and Wagner, J. H.: Turbine Rotor-Stator Interaction. ASME J. Eng. for Power, Vol. 104, pp 729-742, October, 1982.

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TABLE 1

AIRFOIL: FIRST STATOR (MIDSPAN)
PITCH (ins.): 7.71118

	LEADING EDGE	TRAILING EDGE
RADIUS (ins.)	0.44484	0.10987
METAL ANGLE (degr.)	90.00000	21.42000
WEDGE ANGLE (degr.)	31.80000	6.84000

	X (ins.)	Y _L (ins.)	Y _U (ins.)
1	0.00000	6.80766	6.80766
2	0.05332	6.44830	7.15365
3	0.11884	6.43405	7.17319
4	0.17736	6.41912	7.19210
5	0.23728	6.40354	7.21034
6	0.29660	6.38729	7.22791
7	0.35592	6.37035	7.24476
8	0.41524	6.35273	7.26089
9	0.47456	6.33441	7.27624
10	0.53388	6.31540	7.29080
11	0.59320	6.29568	7.30453
12	0.74150	6.24325	7.33502
13	0.83980	6.18623	7.35957
14	1.03810	6.12447	7.37758
15	1.18640	6.05781	7.38835
16	1.33470	5.98603	7.39114
17	1.48300	5.90896	7.38513
18	1.63130	5.82633	7.36940
19	1.77960	5.73787	7.34300
20	1.92790	5.64326	7.30490
21	2.07620	5.54212	7.25403
22	2.22450	5.43404	7.18927
23	2.37280	5.31852	7.10949
24	2.52110	5.19498	7.01363
25	2.66940	5.06273	6.90066
26	2.81770	4.92096	6.76967
27	2.96600	4.76873	6.61989
28	3.11430	4.60490	6.45078
29	3.26260	4.42825	6.26202
30	3.41090	4.23771	6.05354
31	3.55920	4.03254	5.82550
32	3.70750	3.81279	5.57826
33	3.85580	3.57948	5.31230
34	4.00410	3.33397	5.02816
35	4.15240	3.07798	4.72650
36	4.30070	2.81269	4.40803
37	4.44900	2.53937	4.07350
38	4.59730	2.25873	3.72369
39	4.74560	1.97172	3.35942
40	4.89390	1.67884	2.98147
41	5.04220	1.38062	2.59066
42	5.19050	1.07737	2.18773
43	5.33880	0.76951	1.77352
44	5.39812	0.44517	1.60482
45	5.45744	0.52020	1.43448
46	5.51676	0.39451	1.26252
47	5.57608	0.26816	1.08901
48	5.63540	0.14117	0.91397
49	5.69472	0.01364	0.73745
50	5.75404	-0.11456	0.55950
51	5.81336	-0.24329	0.38014
52	5.87268	-0.37263	0.19943
53	5.93200	0.00000	0.00000

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TABLE 2

AIRFOIL: FIRST ROTOR (MIDSPAN)
PITCH (ins.): 6.05879

	LEADING EDGE	TRAILING EDGE
RADIUS (ins.)	0.34872	0.19000
METAL ANGLE (degr.)	42.18646	25.97093
WEDGE ANGLE (degr.)	31.24000	5.31000

	X (ins.)	Y _L (ins.)	Y _U (ins.)
1	0.00000	3.41970	3.41970
2	0.06341	3.21919	3.62774
3	0.12682	3.15069	3.74347
4	0.19023	3.10908	3.84906
5	0.25364	3.08419	3.94593
6	0.31705	3.07242	4.03518
7	0.38046	3.07243	4.11769
8	0.44387	3.08422	4.19414
9	0.50728	3.10912	4.26511
10	0.57069	3.14694	4.33106
11	0.63410	3.18401	4.39238
12	0.69752	3.22523	4.45275
13	0.76093	3.26984	4.51275
14	0.82434	3.31782	4.57184
15	0.88775	3.36922	4.63044
16	0.95116	3.42404	4.68804
17	1.01457	3.48228	4.74414
18	1.07798	3.54394	4.79824
19	1.14139	3.60812	4.85084
20	1.20480	3.67582	4.90144
21	1.26821	3.74704	4.95054
22	1.33162	3.82178	4.99764
23	1.39503	3.89904	5.04224
24	1.45844	3.97882	5.08484
25	1.52185	4.06112	5.12594
26	1.58526	4.14594	5.16504
27	1.64867	4.23328	5.20264
28	1.71208	4.32314	5.23824
29	1.77549	4.41552	5.27134
30	1.83890	4.51042	5.30244
31	1.90231	4.60782	5.33104
32	1.96572	4.70772	5.35764
33	2.02913	4.81012	5.38174
34	2.09254	4.91502	5.40384
35	2.15595	5.02242	5.42344
36	2.21936	5.13232	5.44014
37	2.28277	5.24472	5.45444
38	2.34618	5.35962	5.46594
39	2.40959	5.47702	5.47414
40	2.47300	5.59692	5.47864
41	2.53641	5.71932	5.47914
42	2.60000	5.84422	5.47524
43	2.66341	5.97162	5.46744
44	2.72682	6.10152	5.45524
45	2.79023	6.23392	5.43814
46	2.85364	6.36882	5.41574
47	2.91705	6.50622	5.38864
48	2.98046	6.64612	5.35644
49	3.04387	6.78852	5.31964
50	3.10728	6.93342	5.27774
51	3.17069	7.08082	5.23124
52	3.23410	7.23072	5.18064
53	3.29751	7.38312	5.12544

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TABLE 3

AIRFOIL: SECOND STATOR (MIDSPAN)
PITCH (ins.): 6.05879

	LEADING EDGE	TRAILING EDGE
RADIUS (ins.)	0.34999	0.19000
METAL ANGLE (degr.)	45.66800	25.00000
WEDGE ANGLE (degr.)	27.50000	6.50000

	X (ins.)	Y _L (ins.)	Y _U (ins.)
1	0.00000	4.10291	4.10291
2	0.06452	3.47786	4.30650
3	0.12904	3.52885	4.40610
4	0.19356	3.57793	4.50013
5	0.25808	3.62510	4.58895
6	0.32260	3.67035	4.67285
7	0.38712	3.71368	4.75210
8	0.45164	3.75508	4.82695
9	0.51616	3.79454	4.89760
10	0.58068	3.83206	4.96425
11	0.64520	3.86762	5.02707
12	0.80650	3.94796	5.16834
13	0.96780	4.01599	5.28865
14	1.12910	4.07162	5.38963
15	1.29040	4.11482	5.47259
16	1.45170	4.14552	5.53859
17	1.61300	4.16371	5.58849
18	1.77430	4.16934	5.62296
19	1.93560	4.16244	5.64258
20	2.09690	4.14298	5.64778
21	2.25820	4.11101	5.63388
22	2.41950	4.06655	5.61615
23	2.58080	4.00965	5.57973
24	2.74210	3.94037	5.52972
25	2.90340	3.85879	5.46611
26	3.06470	3.76498	5.38882
27	3.22600	3.65906	5.29771
28	3.38730	3.54111	5.19255
29	3.54860	3.41127	5.07300
30	3.70990	3.26967	4.93863
31	3.87120	3.11644	4.78891
32	4.03250	2.95172	4.62316
33	4.19380	2.77568	4.44053
34	4.35510	2.58849	4.24001
35	4.51640	2.39030	4.02052
36	4.67770	2.18130	3.78134
37	4.83900	1.96166	3.52218
38	5.00030	1.73160	3.24330
39	5.16160	1.49128	2.94535
40	5.32290	1.24090	2.62941
41	5.48420	0.98064	2.29682
42	5.64550	0.71074	1.94914
43	5.80680	0.43141	1.58790
44	5.87132	0.31707	1.43996
45	5.93584	0.20126	1.29018
46	6.00036	0.08400	1.13867
47	6.06488	-0.03471	0.98552
48	6.12940	-0.15484	0.83080
49	6.19392	-0.27639	0.67459
50	6.25844	-0.39934	0.51699
51	6.32296	-0.52368	0.35805
52	6.38748	-0.64939	0.19786
53	6.45200	0.00000	0.00000

TURBINE STAGE AT 15% AXIAL GAP

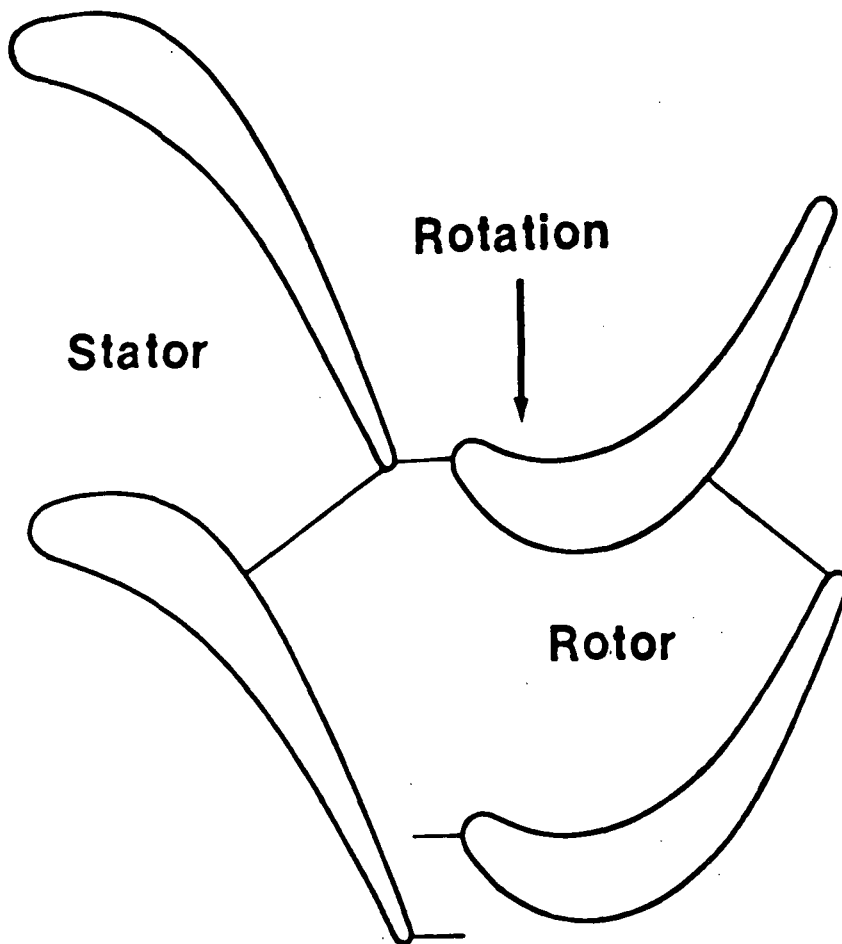


FIG. 1

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FIRST STATOR PRESSURE DISTRIBUTION

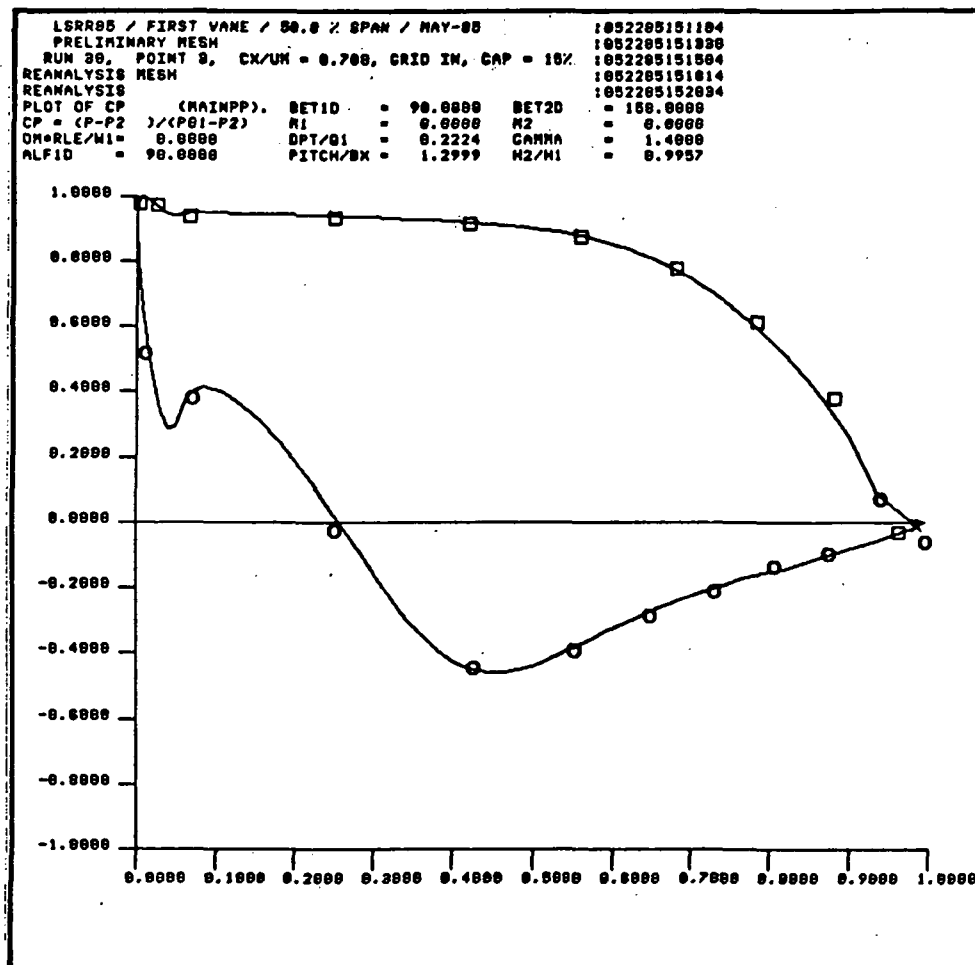


Figure 2a

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ROTOR PRESSURE DISTRIBUTION

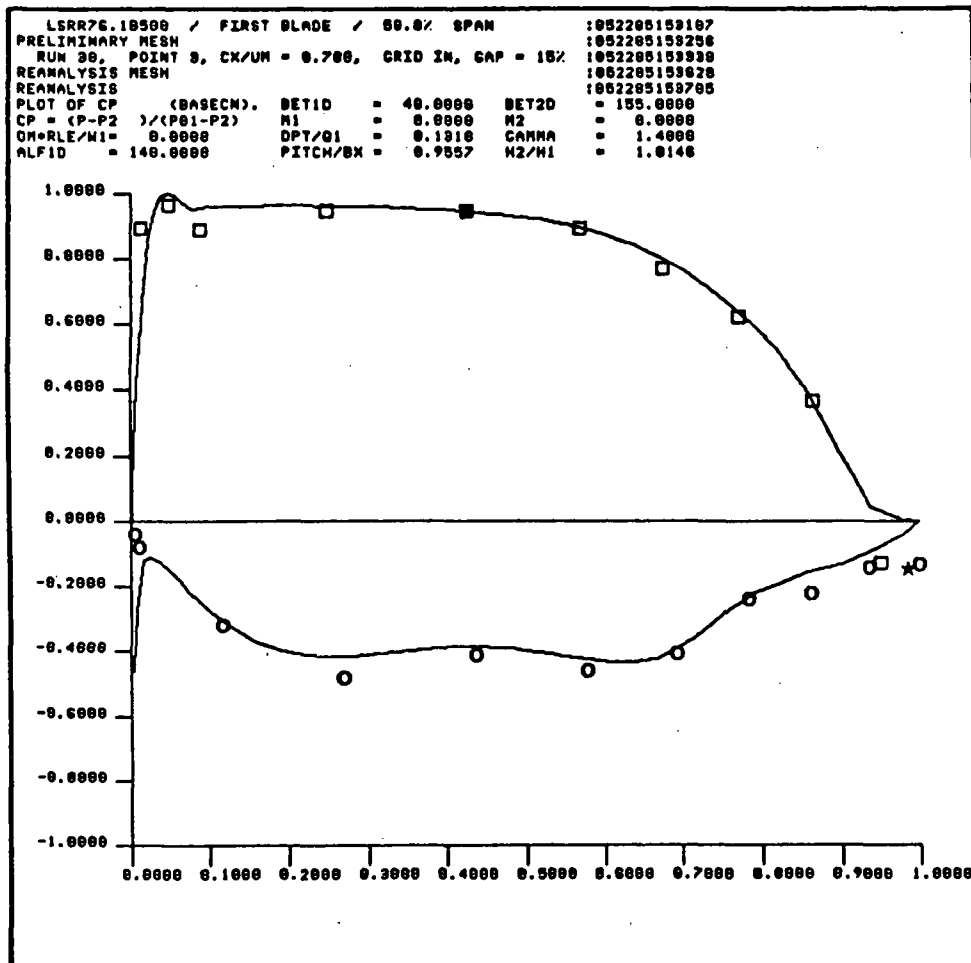


Figure 2b

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SECOND STATOR PRESSURE DISTRIBUTION

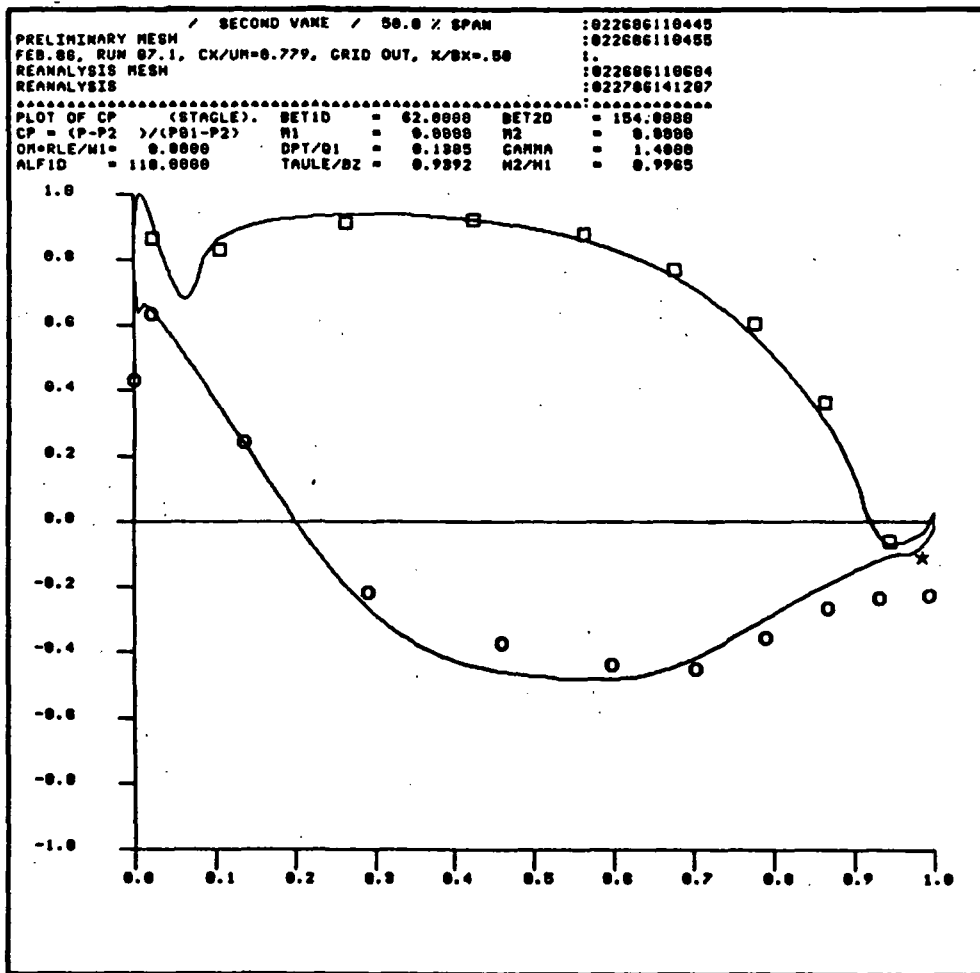


Figure 2c

STREAMWISE TURBULENCE (RMS)

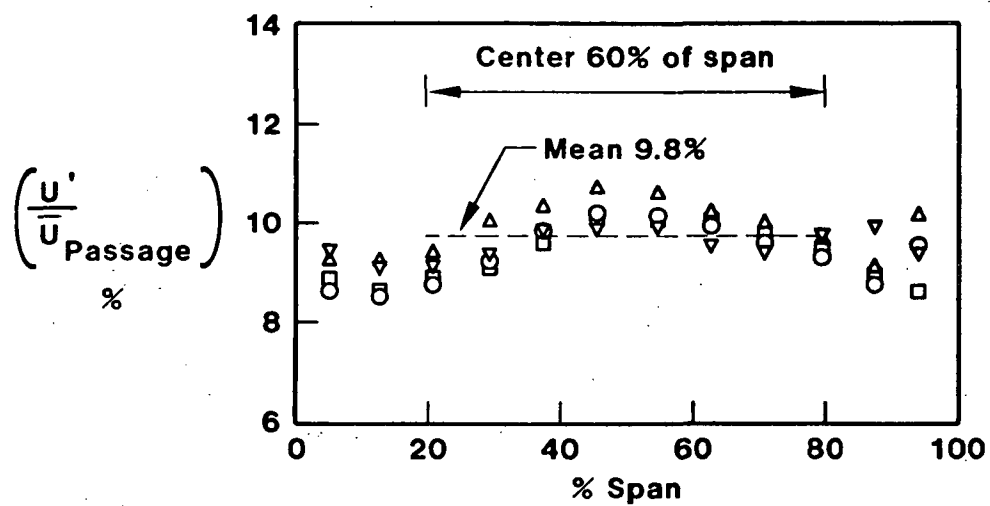
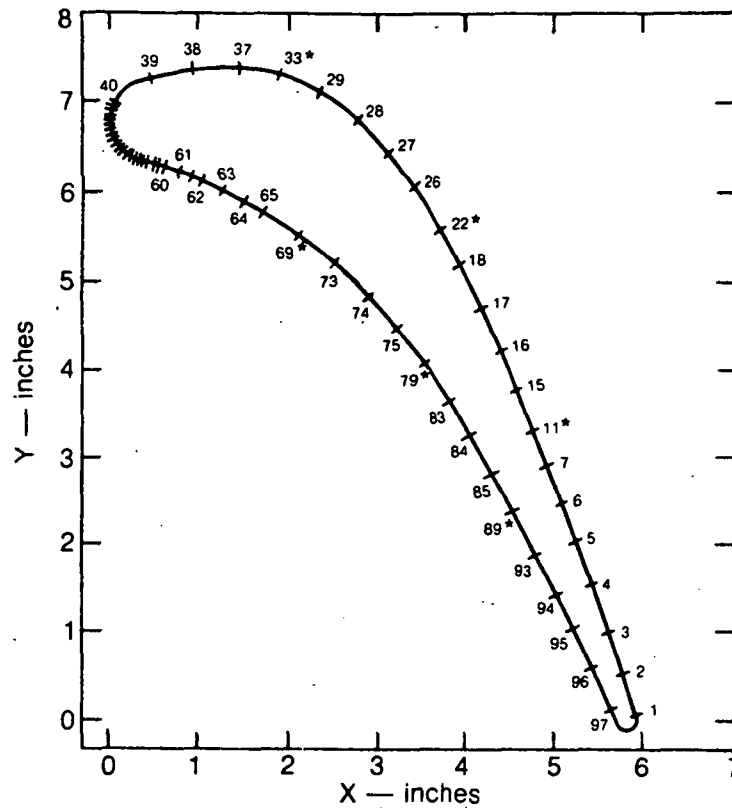


Figure 3

$B_x = 5.932$ in. TOTAL ARC LENGTH = 20.334 in.

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NOTE — ORIGIN OF ARC LENGTH (S) IS THE AXIAL TRAILING EDGE
(MAXIMUM X), S INCREASES MOVING COUNTERCLOCKWISE

SUCTION SURFACE AIRFOIL TC's 1-60
PRESSURE SURFACE AIRFOIL TC's 40-97

T.C.#	X/B _x	S/B _x
1	0.995	0.012
2	0.968	0.096
3	0.941	0.181
4	0.915	0.265
5	0.887	0.349
6	0.858	0.434
7	0.829	0.518
11*	0.799	0.602
15	0.767	0.686
16	0.735	0.771
17	0.700	0.855
18	0.663	0.939
22*	0.620	1.024
26	0.575	1.108
27	0.524	1.192
28	0.464	1.277
29	0.396	1.361
33*	0.324	1.445
37	0.169	1.529
38	0.155	1.614

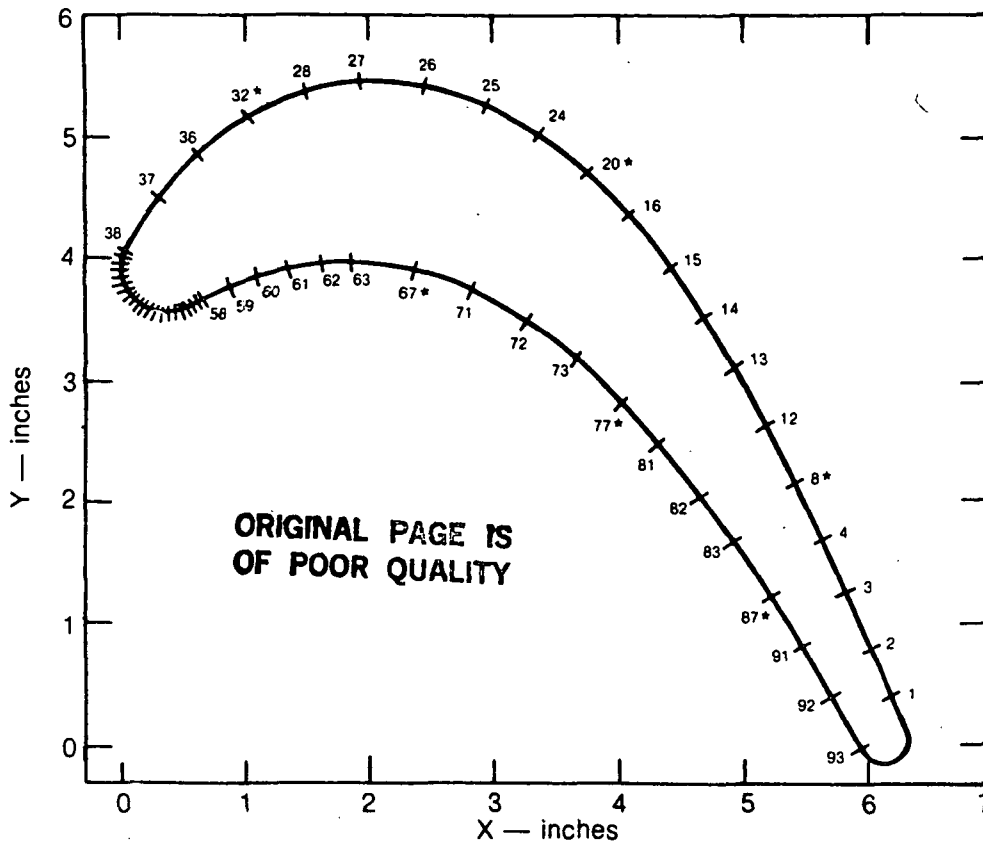
T.C.#	X/B _x	S/B _x
39	0.073	1.698
40	0.007	1.782
41	0.004	1.791
42	0.001	1.799
43	0.000	1.808
44	0.000	1.816
45	0.001	1.824
46	0.002	1.833
47	0.005	1.841
48	0.008	1.850
49	0.013	1.858
50	0.018	1.867
51	0.023	1.875
52	0.030	1.883
53	0.037	1.892
54	0.044	1.900
55	0.052	1.909
56	0.060	1.917
57	0.068	1.926
58	0.076	1.934

T.C.#	X/B _x	S/B _x
59	0.084	1.942
60	0.092	1.951
61	0.130	1.993
62	0.172	2.035
63	0.209	2.077
64	0.246	2.119
65	0.285	2.162
69*	0.356	2.246
73	0.421	2.330
74	0.484	2.414
75	0.538	2.499
79*	0.590	2.583
83	0.637	2.667
84	0.679	2.752
85	0.723	2.836
89*	0.764	2.920
93	0.802	3.004
94	0.840	3.089
95	0.878	3.173
96	0.914	3.257
97	0.949	3.342

* AT THESE AXIAL STATIONS T.C.s LOCATED AT 50% SPAN AND ± 8.3 , 16.6 AND 25% AWAY FROM MIDSPAN

Figure 4a Instrumentation Diagram for the First Stage Stator

$B_x = 6.341$ in. TOTAL ARC LENGTH = 18.753 in.



NOTE — ORIGIN OF ARC LENGTH (S) IS THE AXIAL TRAILING EDGE
(MAXIMUM X), S INCREASES MOVING COUNTERCLOCKWISE

SUCTION SURFACE AIRFOIL TC's 1-58
PRESSURE SURFACE AIRFOIL TC's 38-93

T.C.#	X/B _x	S/B _x
1	0.975	0.069
2	0.945	0.148
3	0.912	0.227
4	0.878	0.306
8*	0.845	0.385
12	0.811	0.463
13	0.773	0.542
14	0.735	0.621
15	0.692	0.700
16	0.643	0.779
20*	0.588	0.858
24	0.525	0.936
25	0.456	1.015
26	0.382	1.094
27	0.303	1.173
28	0.226	1.252
32*	0.155	1.331
36	0.095	1.410
37	0.044	1.488
38	0.003	1.567

T.C.#	X/B _x	S/B _x
39	0.001	1.575
40	0.000	1.583
41	0.000	1.591
42	0.002	1.599
43	0.004	1.607
44	0.007	1.615
45	0.012	1.622
46	0.017	1.630
47	0.023	1.638
48	0.030	1.646
49	0.037	1.654
50	0.044	1.662
51	0.052	1.670
52	0.061	1.678
53	0.068	1.686
54	0.076	1.693
55	0.083	1.701
56	0.090	1.709
57	0.096	1.717
58	0.103	1.725

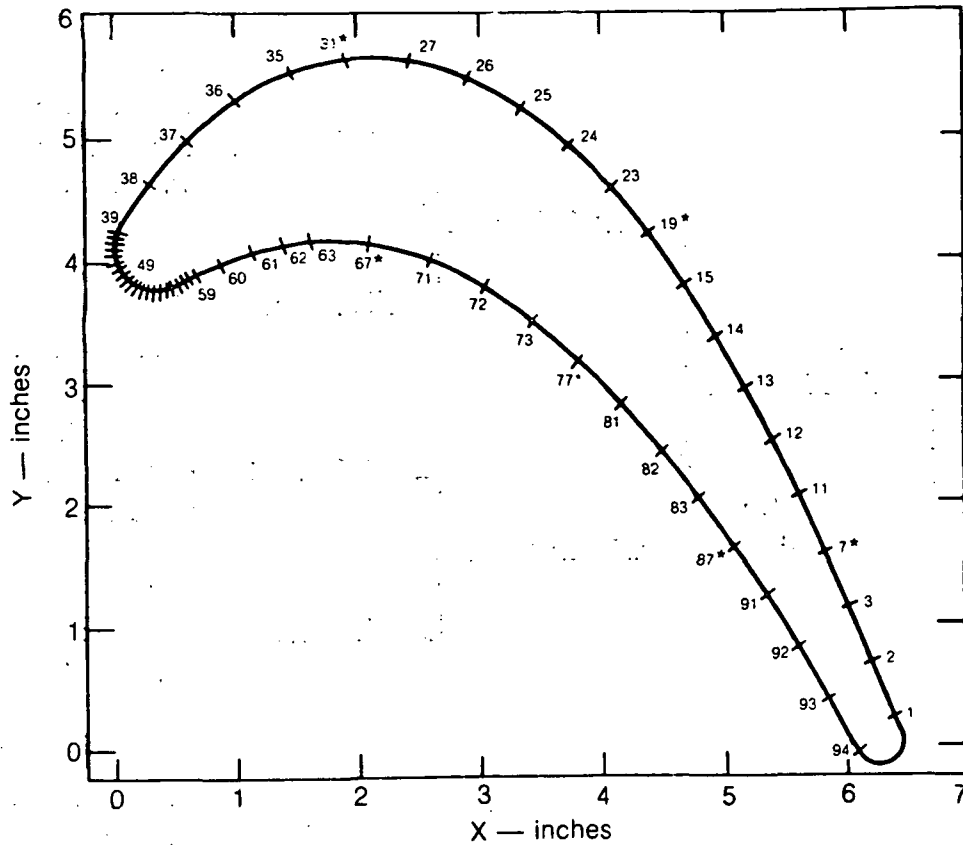
T.C.#	X/B _x	S/B _x
59	0.139	1.764
60	0.172	1.804
61	0.211	1.843
62	0.251	1.883
63	0.290	1.922
67*	0.371	2.000
71	0.445	2.080
72	0.513	2.159
73	0.574	2.237
77*	0.629	2.316
81	0.680	2.395
82	0.730	2.474
83	0.774	2.553
87*	0.820	2.632
91	0.858	2.711
92	0.899	2.789
93	0.940	2.868

* AT THESE AXIAL STATIONS T.C.s LOCATED
AT 50% SPAN AND ± 8.3 , 16.6 AND 25%
AWAY FROM MIDSPAN

Figure 4b Instrumentation Diagram for the First Stage Rotor

ORIGINAL PAGE IS
OF POOR QUALITY

$B_x = 6.452$ in. TOTAL ARC LENGTH = 19.141 in.



NOTE — ORIGIN OF ARC LENGTH (S) IS THE AXIAL TRAILING EDGE
(MAXIMUM X), S INCREASES MOVING COUNTERCLOCKWISE

SUCTION SURFACE AIRFOIL TC's 1-59
PRESSURE SURFACE AIRFOIL TC's 39-94

T.C.#	X/B_x	S/B_x
1	0.990	0.023
2	0.962	0.101
3	0.933	0.178
7*	0.904	0.256
11	0.871	0.333
12	0.839	0.411
13	0.804	0.488
14	0.767	0.566
15	0.727	0.643
19*	0.682	0.721
23	0.634	0.798
24	0.580	0.876
25	0.518	0.953
26	0.451	1.031
27	0.377	1.108
31*	0.298	1.186
35	0.226	1.263
36	0.157	1.341
37	0.095	1.418
38	0.047	1.496

T.C.#	X/B_x	S/B_x
39	0.002	1.573
40	0.001	1.581
41	0.000	1.589
42	0.000	1.596
43	0.002	1.604
44	0.004	1.612
45	0.008	1.620
46	0.012	1.627
47	0.018	1.635
48	0.024	1.643
49	0.031	1.651
50	0.038	1.658
51	0.044	1.666
52	0.052	1.674
53	0.060	1.682
54	0.067	1.689
55	0.075	1.697
56	0.082	1.705
57	0.089	1.713
58	0.096	1.720

T.C.#	X/B_x	S/B_x
59	0.103	1.728
60	0.139	1.767
61	0.177	1.806
62	0.214	1.844
63	0.250	1.883
67*	0.325	1.961
71	0.401	2.038
72	0.471	2.116
73	0.533	2.193
77*	0.592	2.271
81	0.645	2.348
82	0.696	2.426
83	0.742	2.503
87*	0.786	2.581
91	0.828	2.658
92	0.868	2.736
93	0.908	2.813
94	0.945	2.891

* AT THESE AXIAL STATIONS T.C.s LOCATED
AT 50% SPAN AND ± 8.3 , 16.6 AND 25%
AWAY FROM MIDSPAN

Figure 4c Instrumentation Diagram for the Second Stage Stator

ORIGINAL PAGE IS
OF POOR QUALITY

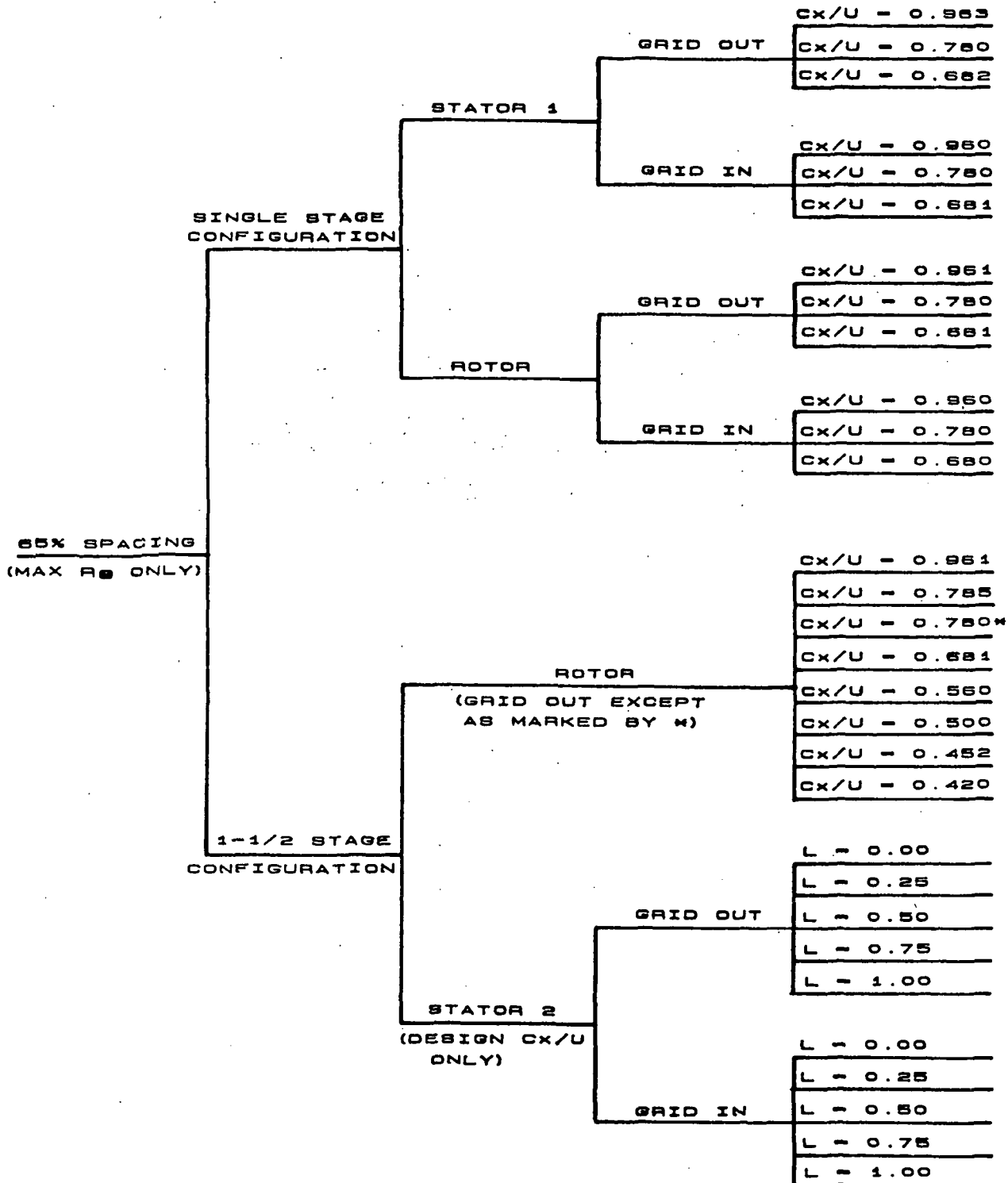
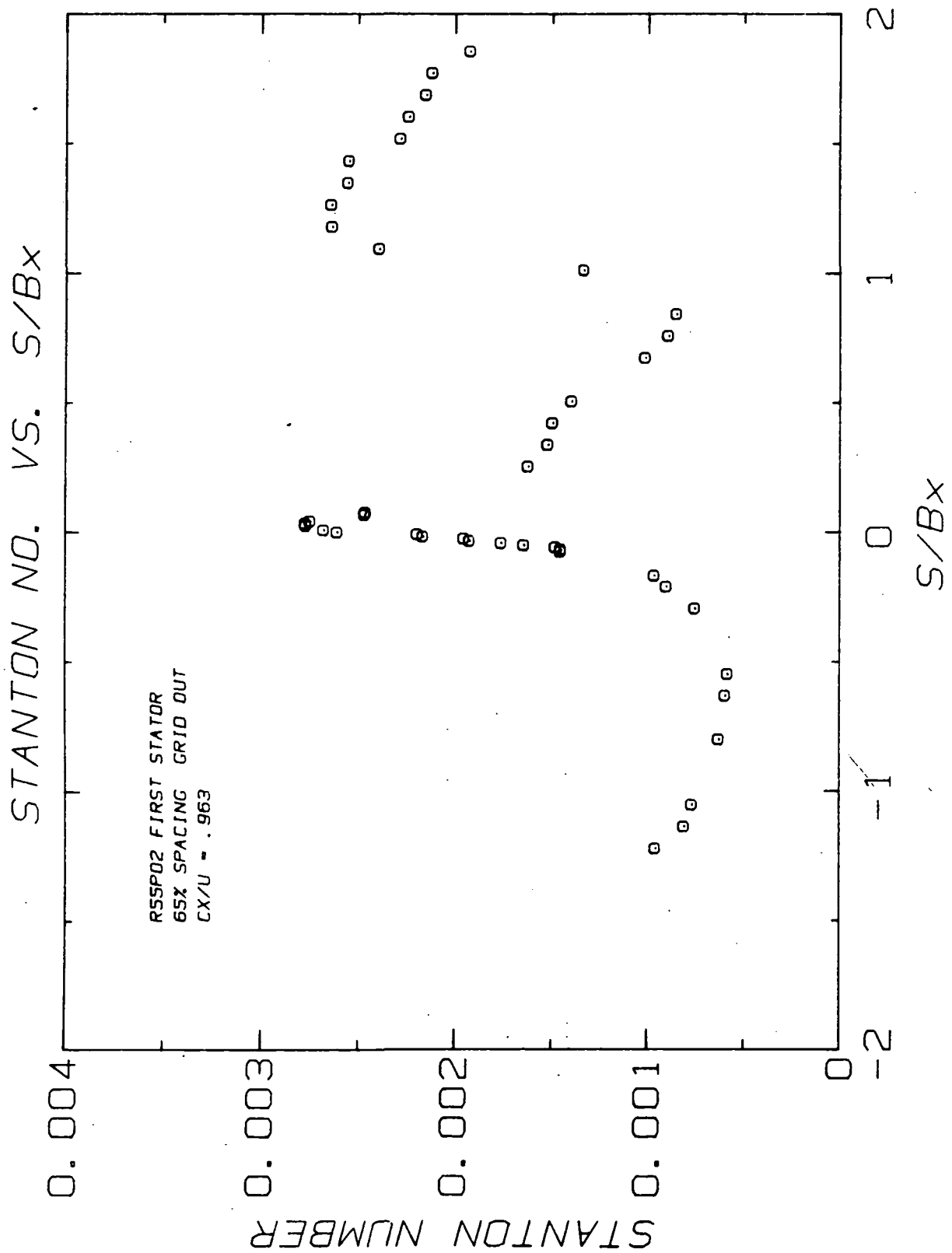
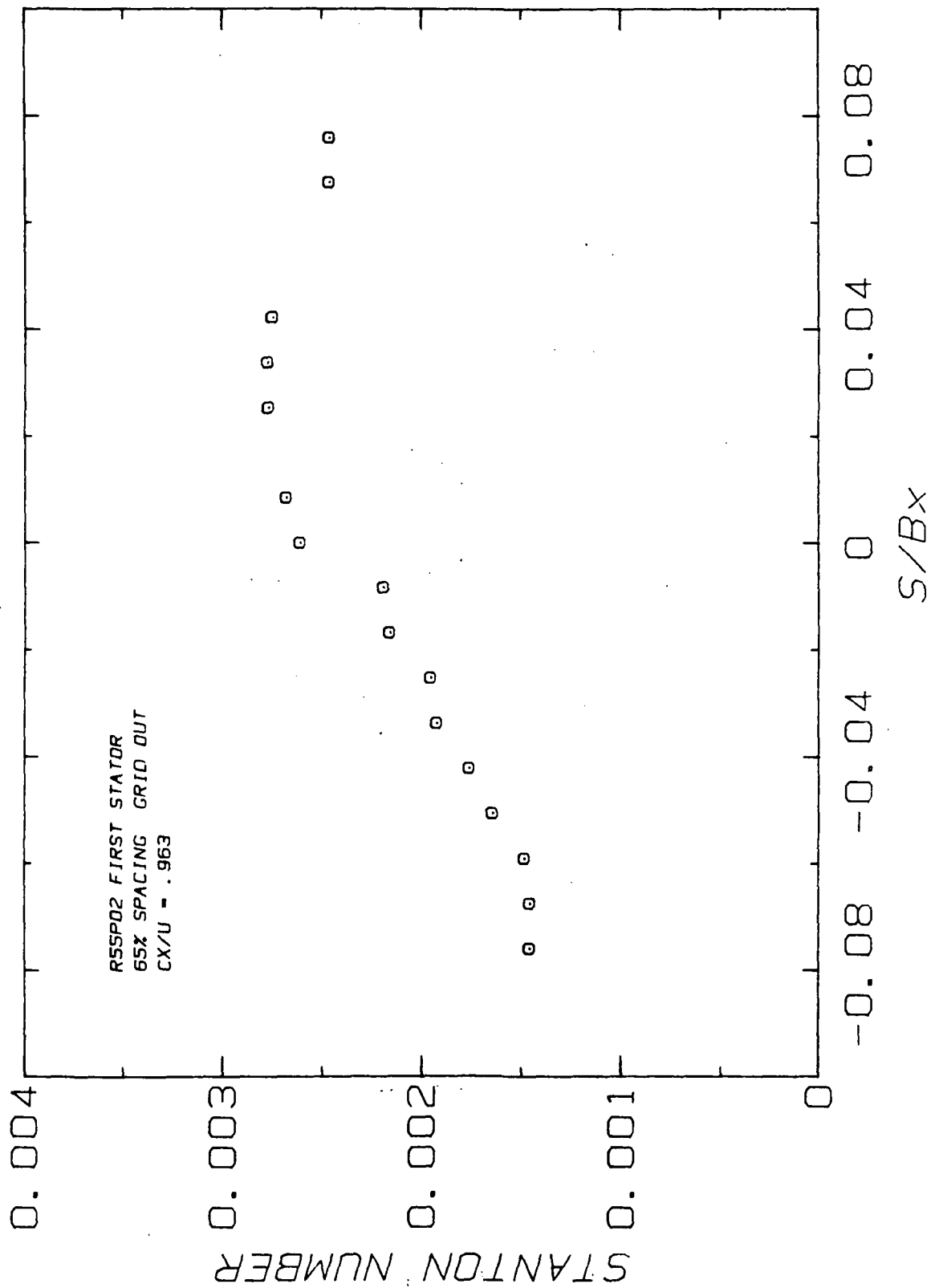


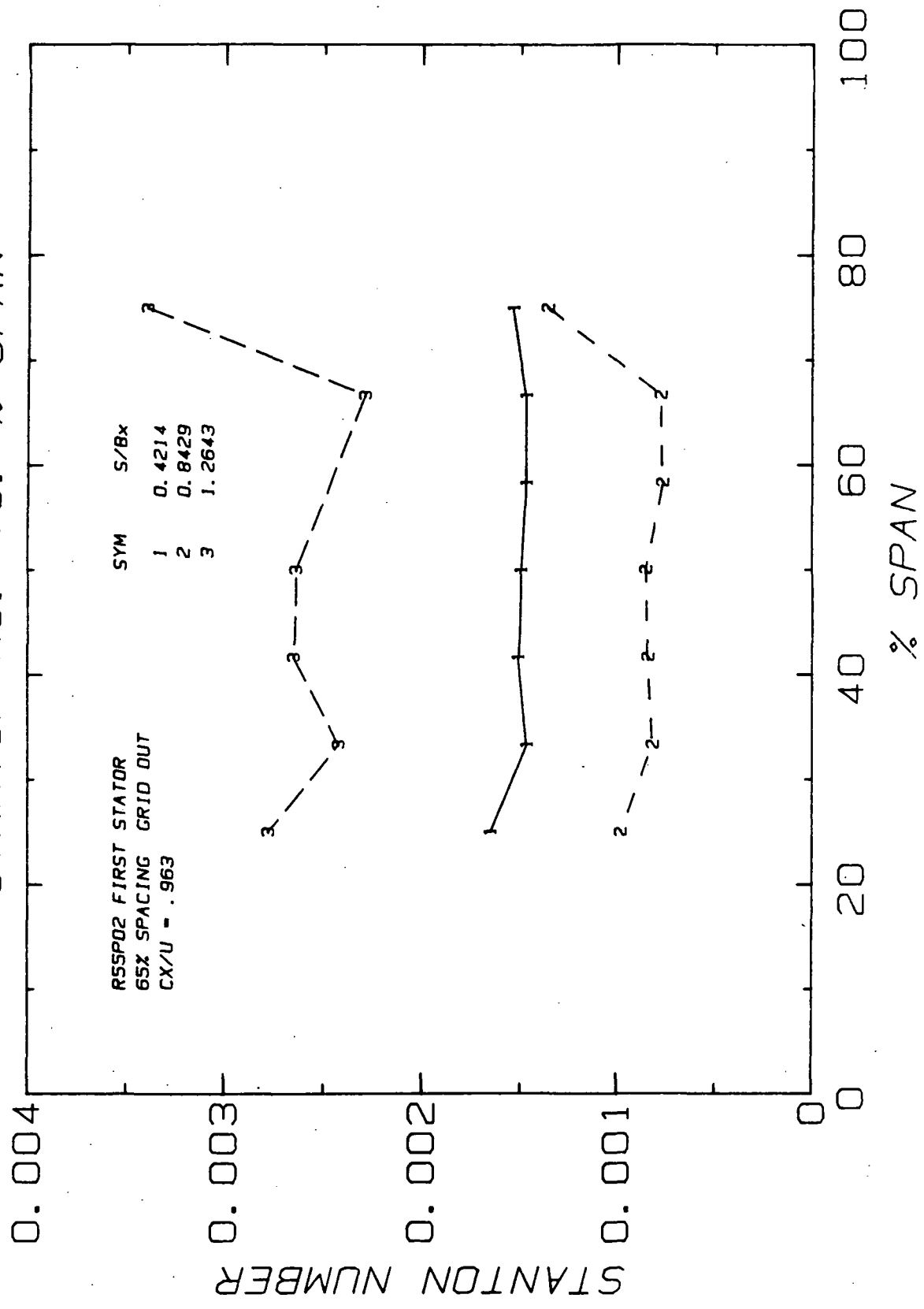
FIG. 5 ORDER OF DATA PRESENTATION APPENDIX II



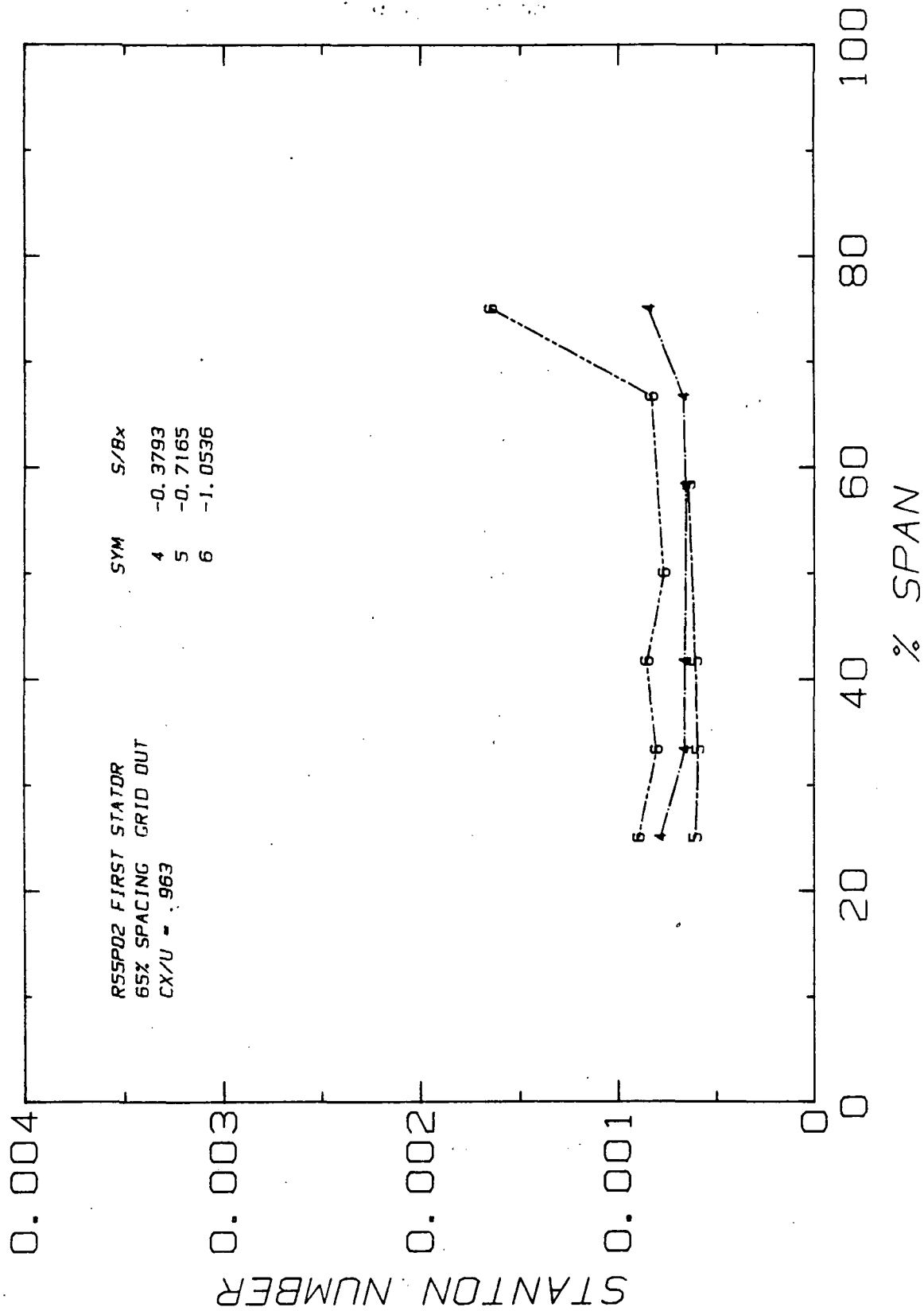
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



ORIGINAL PAGE IS
OF POOR QUALITY

FIRST STATOR

CX/U=.963

GRID OUT

65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 55

POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	61.3	205.7	0.0754	0.01486	0.1430	5.932
SI	16.3	62.7	1.2078	0.02570	1.6229	15.067

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	11.00	1.854	0.001918	855.0	80.6	27.0
2	10.50	1.770	0.002116	943.4	79.2	26.2
3	10.00	1.686	0.002148	957.8	79.0	26.1
4	9.50	1.601	0.002236	997.1	78.3	25.7
5	9.00	1.517	0.002279	1015.9	78.1	25.6
6	8.50	1.433	0.002546	1135.0	76.4	24.7
7	8.00	1.349	0.002552	1137.6	76.4	24.7
11	7.50	1.264	0.002640	1176.9	75.9	24.4
15	7.00	1.180	0.002635	1174.8	76.0	24.4
16	6.50	1.096	0.002386	1063.9	77.4	25.2
17	6.00	1.011	0.001330	593.1	89.4	31.9
22	5.00	0.843	0.000849	378.3	103.7	39.8
26	4.50	0.759	0.000892	397.7	101.8	38.8
27	4.00	0.674	0.001012	451.2	97.4	36.3
29	3.00	0.506	0.001398	623.1	87.9	31.0
33	2.50	0.421	0.001494	666.2	86.2	30.1
37	2.00	0.337	0.001519	677.1	85.8	29.9
38	1.50	0.253	0.001620	722.2	84.3	29.1
41	0.45	0.076	0.002457	1095.6	76.5	24.7
42	0.40	0.067	0.002461	1097.1	76.5	24.7
51	-0.05	-0.008	0.002187	975.1	78.4	25.8
52	-0.10	-0.017	0.002158	962.1	78.6	25.9
53	-0.15	-0.025	0.001947	868.3	80.4	26.9
56	-0.30	-0.051	0.001640	731.0	83.7	28.7
57	-0.35	-0.059	0.001477	658.7	86.1	30.0
58	-0.40	-0.067	0.001450	646.6	86.5	30.3
45	0.25	0.042	0.002746	1224.2	75.0	23.9
46	0.20	0.034	0.002769	1234.7	74.9	23.8
47	0.15	0.025	0.002767	1233.6	74.9	23.8
49	0.05	0.008	0.002675	1192.8	75.3	24.1
50	0.00	0.000	0.002606	1161.8	75.7	24.3
54	-0.20	-0.034	0.001918	855.0	80.6	27.0
55	-0.25	-0.042	0.001755	782.5	82.3	28.0
59	-0.45	-0.076	0.001451	646.8	86.5	30.3
62	-1.00	-0.169	0.000962	428.8	98.5	37.0
63	-1.25	-0.211	0.000899	400.9	100.9	38.3
65	-1.75	-0.295	0.000750	334.3	108.0	42.2
74	-3.25	-0.548	0.000580	258.6	119.3	48.5
75	-3.75	-0.632	0.000593	264.3	118.1	47.8
83	-4.75	-0.801	0.000626	279.2	114.8	46.0
89	-6.25	-1.054	0.000765	341.0	105.9	41.1
93	-6.75	-1.138	0.000806	359.4	103.8	39.9
94	-7.25	-1.222	0.000956	426.0	97.7	36.5

SPANWISE HEAT TRANSFER RUN: 55 POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	61.3	205.7	0.0754	0.01486	0.1430	5.932
SI	16.3	62.7	1.2078	0.02570	1.6229	15.067

FOR UNITS SEE NOMENCLATURE

=====

S/BX = 0.42144

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
30	4.50	75.0	0.001536	684.7	85.6	29.8
31	4.00	66.7	0.001467	654.1	86.7	30.4
32	3.50	58.3	0.001468	654.7	86.6	30.4
33	3.00	50.0	0.001494	666.2	86.2	30.1
34	2.50	41.7	0.001506	671.5	86.0	30.0
35	2.00	33.3	0.001464	652.6	86.7	30.4
36	1.50	25.0	0.001651	736.1	84.0	28.9

=====

S/BX = 0.84289

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
19	4.50	75.0	0.001360	606.4	88.7	31.5
20	4.00	66.7	0.000773	344.4	107.4	41.9
21	3.50	58.3	0.000764	340.7	107.9	42.1
22	3.00	50.0	0.000849	378.3	103.7	39.8
23	2.50	41.7	0.000837	373.2	104.2	40.1
24	2.00	33.3	0.000813	362.4	105.4	40.8
25	1.50	25.0	0.000979	436.7	98.5	37.0

=====

S/BX = 1.26433

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
8	4.50	75.0	0.003398	1515.0	72.7	22.6
9	4.00	66.7	0.002286	1019.4	78.1	25.6
11	3.00	50.0	0.002640	1176.9	75.9	24.4
12	2.50	41.7	0.002651	1182.1	75.9	24.4
13	2.00	33.3	0.002420	1079.0	77.2	25.1
14	1.50	25.0	0.002779	1239.2	75.2	24.0

=====

S/BX = -0.37930

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
66	4.50	75.0	0.000841	374.8	103.4	39.7
67	4.00	66.7	0.000662	295.3	113.4	45.2
68	3.50	58.3	0.000650	289.7	114.3	45.7
70	2.50	41.7	0.000657	293.1	113.7	45.4
71	2.00	33.3	0.000656	292.3	113.9	45.5
72	1.50	25.0	0.000783	349.2	106.2	41.2

=====

S/BX = -0.71645

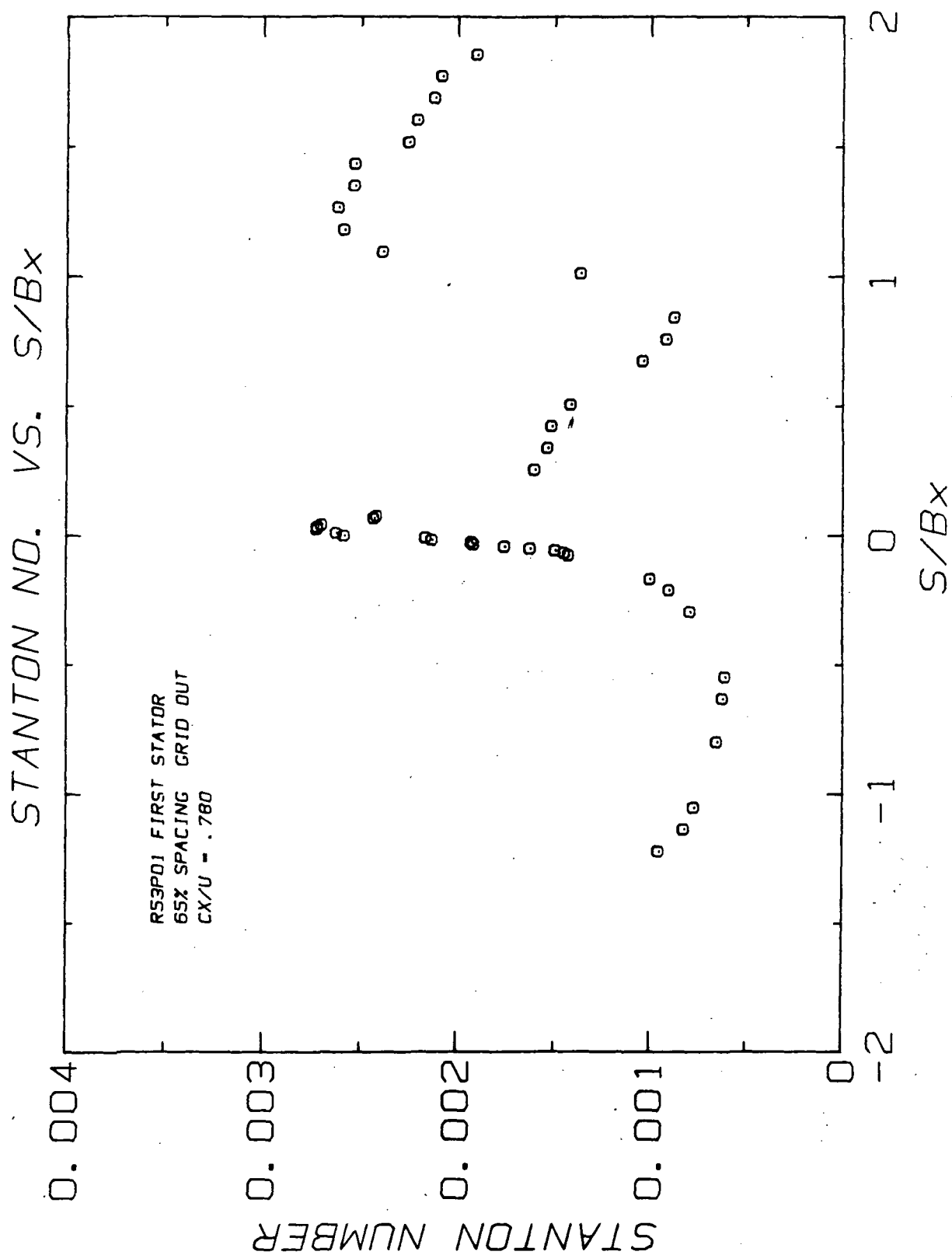
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
78	3.50	58.3	0.000636	283.6	114.5	45.8
80	2.50	41.7	0.000603	268.8	117.0	47.2
81	2.00	33.3	0.000589	262.7	118.1	47.8
82	1.50	25.0	0.000605	269.7	116.8	47.1

=====

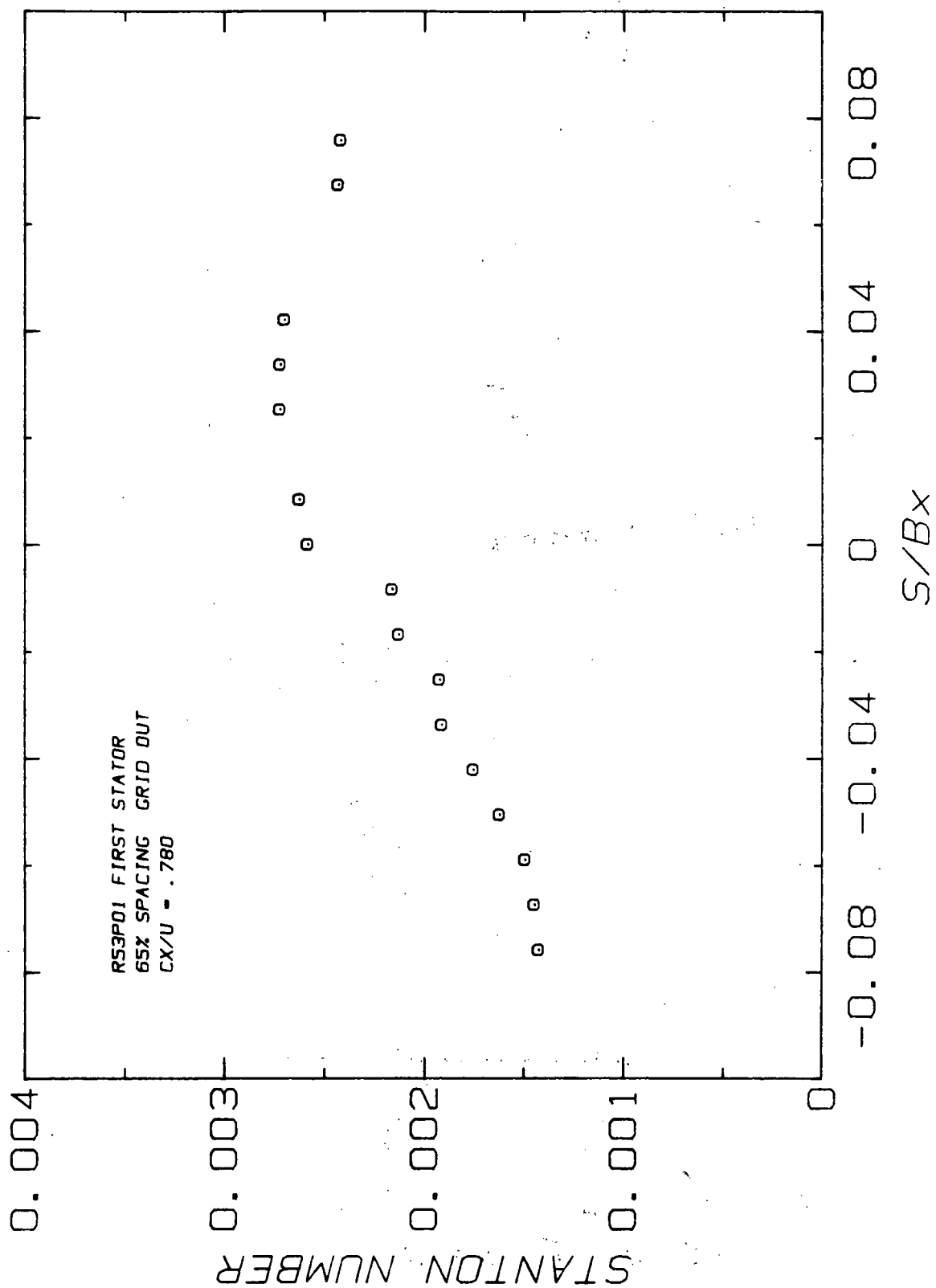
S/BX = -1.05361

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
86	4.50	75.0	0.001644	733.2	83.6	28.6
87	4.00	66.7	0.000827	368.7	103.0	39.4
89	3.00	50.0	0.000765	341.0	105.9	41.1
90	2.50	41.7	0.000852	379.9	101.9	38.8
91	2.00	33.3	0.000802	357.6	104.1	40.1
92	1.50	25.0	0.000894	398.5	100.3	37.9

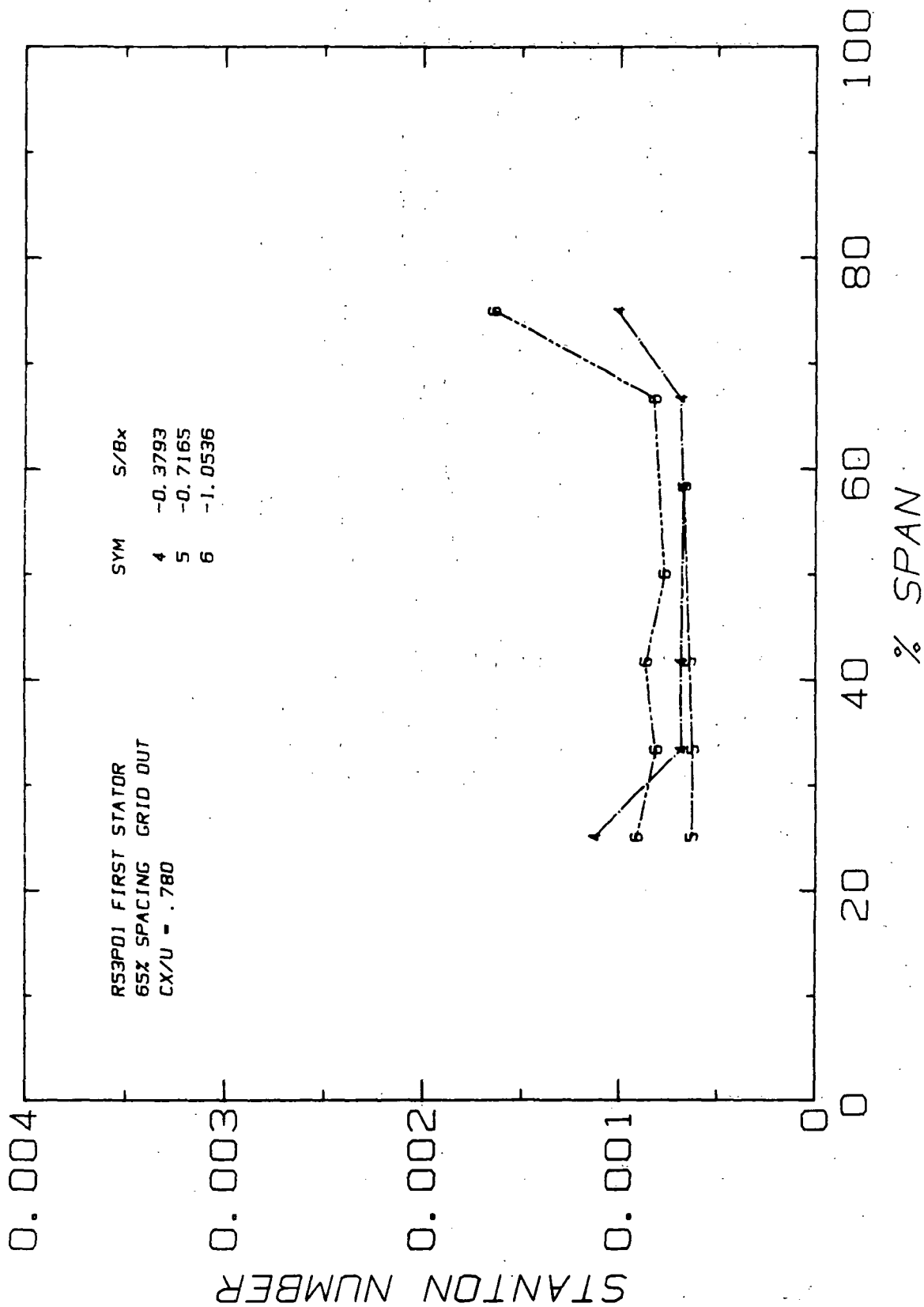
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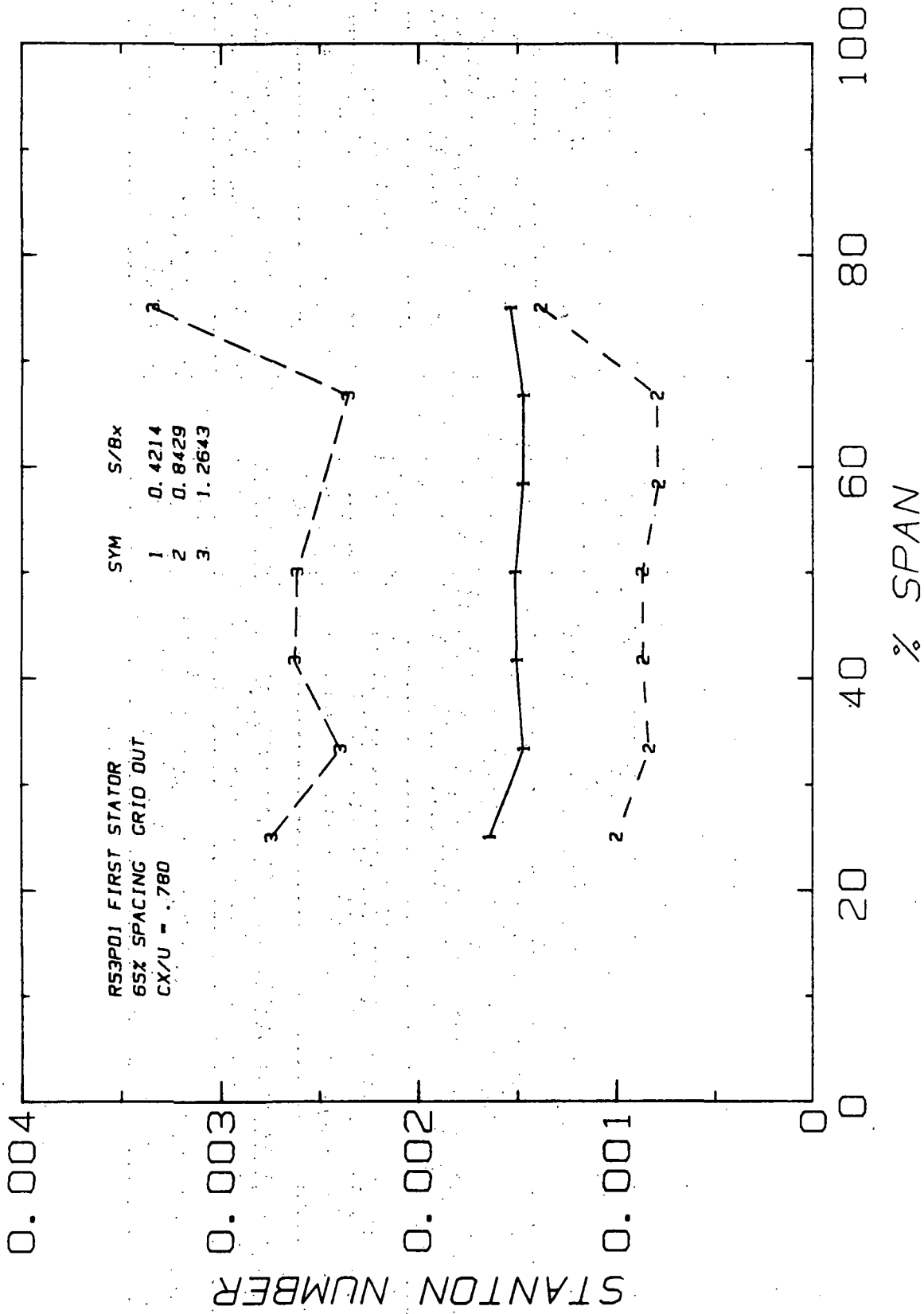
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



FIRST STATOR CX/U=.780 GRID OUT 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 53 POINT: 1

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	57.2	204.3	0.0754	0.01474	0.1390	5.932
SI	14.0	62.3	1.2073	0.02549	1.5775	15.067

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	11.00	1.854	0.001898	846.7	76.7	24.8
2	10.50	1.770	0.002079	927.3	75.4	24.1
3	10.00	1.686	0.002114	943.0	75.1	23.9
4	9.50	1.601	0.002202	982.5	74.3	23.5
5	9.00	1.517	0.002247	1002.5	74.1	23.4
6	8.50	1.433	0.002526	1126.9	72.3	22.4
7	8.00	1.349	0.002530	1128.6	72.3	22.4
11	7.50	1.264	0.002613	1165.4	71.8	22.1
15	7.00	1.180	0.002581	1151.2	72.0	22.2
16	6.50	1.096	0.002384	1063.3	73.2	22.9
17	6.00	1.011	0.001362	607.7	84.4	29.1
22	5.00	0.843	0.000871	388.6	98.2	36.8
26	4.50	0.759	0.000916	408.6	96.4	35.8
27	4.00	0.674	0.001037	462.7	92.1	33.4
29	3.00	0.506	0.001414	630.9	83.2	28.4
33	2.50	0.421	0.001512	674.3	81.6	27.6
37	2.00	0.337	0.001534	684.1	81.2	27.3
38	1.50	0.253	0.001601	714.0	80.3	26.8
41	0.45	0.076	0.002413	1076.3	72.6	22.5
42	0.40	0.067	0.002427	1082.6	72.5	22.5
51	-0.05	-0.008	0.002157	962.3	74.3	23.5
52	-0.10	-0.017	0.002123	947.1	74.6	23.7
53	-0.15	-0.025	0.001921	856.8	76.3	24.6
56	-0.30	-0.051	0.001619	722.2	79.7	26.5
57	-0.35	-0.059	0.001490	664.7	81.5	27.5
58	-0.40	-0.067	0.001443	643.7	82.3	27.9
45	0.25	0.042	0.002696	1202.9	71.0	21.7
46	0.20	0.034	0.002717	1212.0	70.9	21.6
47	0.15	0.025	0.002718	1212.6	70.9	21.6
49	0.05	0.008	0.002619	1168.4	71.4	21.9
50	0.00	0.000	0.002579	1150.5	71.6	22.0
54	-0.20	-0.034	0.001910	851.8	76.4	24.7
55	-0.25	-0.042	0.001750	780.7	78.1	25.6
59	-0.45	-0.076	0.001422	634.1	82.6	28.1
62	-1.00	-0.169	0.000995	444.0	92.9	33.8
63	-1.25	-0.211	0.000898	400.5	96.5	35.8
65	-1.75	-0.295	0.000784	349.9	101.6	38.7
74	-3.25	-0.548	0.000607	270.6	112.5	44.7
75	-3.75	-0.632	0.000621	277.0	111.3	44.0
83	-4.75	-0.801	0.000649	289.4	108.7	42.6
89	-6.25	-1.054	0.000766	341.5	101.5	38.6
93	-6.75	-1.138	0.000819	365.3	98.9	37.1
94	-7.25	-1.222	0.000952	424.7	93.5	34.2

ORIGINAL PAGE IS
OF POOR QUALITY

FIRST STATOR

CX/U=.780

GRID OUT

65% SPACING

SPANWISE HEAT TRANSFER

RUN: 53

POINT: 1

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	57.2	204.3	0.0754	0.01474	0.1390	5.932
SI	14.0	62.3	1.2073	0.02549	1.5775	15.067

FOR UNITS SEE NOMENCLATURE

=====

S/BX = 0.42144

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
30	4.50	75.0	0.001534	684.5	81.2	27.4
31	4.00	66.7	0.001467	654.6	82.3	27.9
32	3.50	58.3	0.001472	656.5	82.2	27.9
33	3.00	50.0	0.001512	674.3	81.6	27.6
34	2.50	41.7	0.001502	670.0	81.7	27.6
35	2.00	33.3	0.001468	654.7	82.3	27.9
36	1.50	25.0	0.001641	731.8	79.8	26.5

=====

S/BX = 0.84289

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
19	4.50	75.0	0.001385	617.8	83.9	28.8
20	4.00	66.7	0.000792	353.4	101.9	38.8
21	3.50	58.3	0.000785	350.3	102.2	39.0
22	3.00	50.0	0.000871	388.6	98.2	36.8
23	2.50	41.7	0.000865	385.8	98.5	36.9
24	2.00	33.3	0.000833	371.4	99.9	37.7
25	1.50	25.0	0.001003	447.2	93.3	34.0

=====

S/BX = 1.26433

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
8	4.50	75.0	0.003344	1491.8	68.7	20.4
9	4.00	66.7	0.002352	1049.2	73.4	23.0
11	3.00	50.0	0.002613	1165.4	71.8	22.1
12	2.50	41.7	0.002624	1170.4	71.8	22.1
13	2.00	33.3	0.002391	1066.4	73.1	22.9
14	1.50	25.0	0.002745	1224.5	71.2	21.8

=====

S/BX = -0.37930

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
66	4.50	75.0	0.001002	447.1	92.7	33.7
67	4.00	66.7	0.000684	305.1	107.3	41.9
68	3.50	58.3	0.000670	299.0	108.3	42.4
70	2.50	41.7	0.000683	304.9	107.4	41.9
71	2.00	33.3	0.000682	304.4	107.4	41.9
72	1.50	25.0	0.001130	504.2	88.9	31.6

=====

S/BX = -0.71645

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
78	3.50	58.3	0.000666	297.2	107.9	42.2
80	2.50	41.7	0.000635	283.4	110.0	43.3
81	2.00	33.3	0.000623	277.8	110.9	43.8
82	1.50	25.0	0.000629	280.4	110.5	43.6

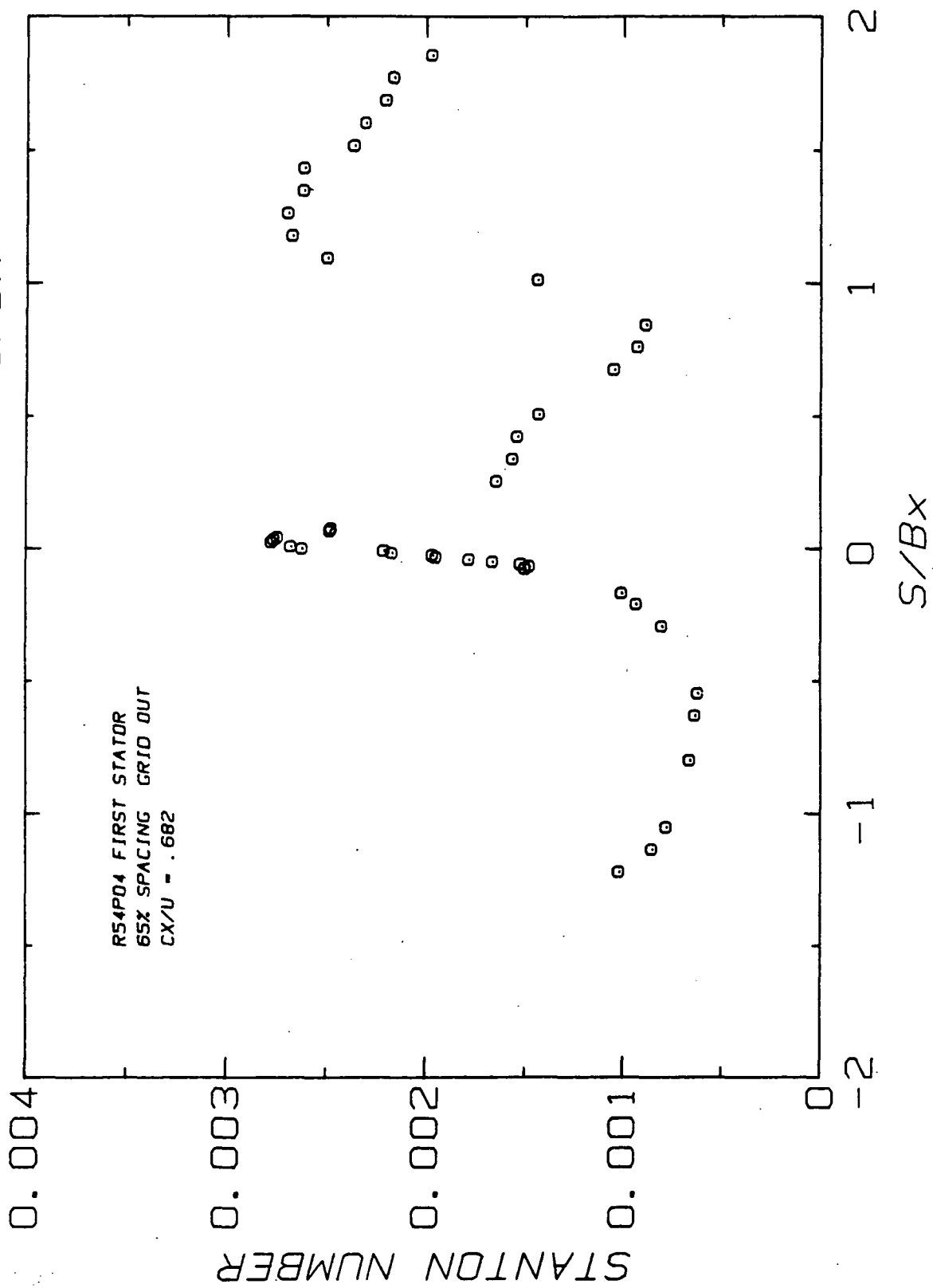
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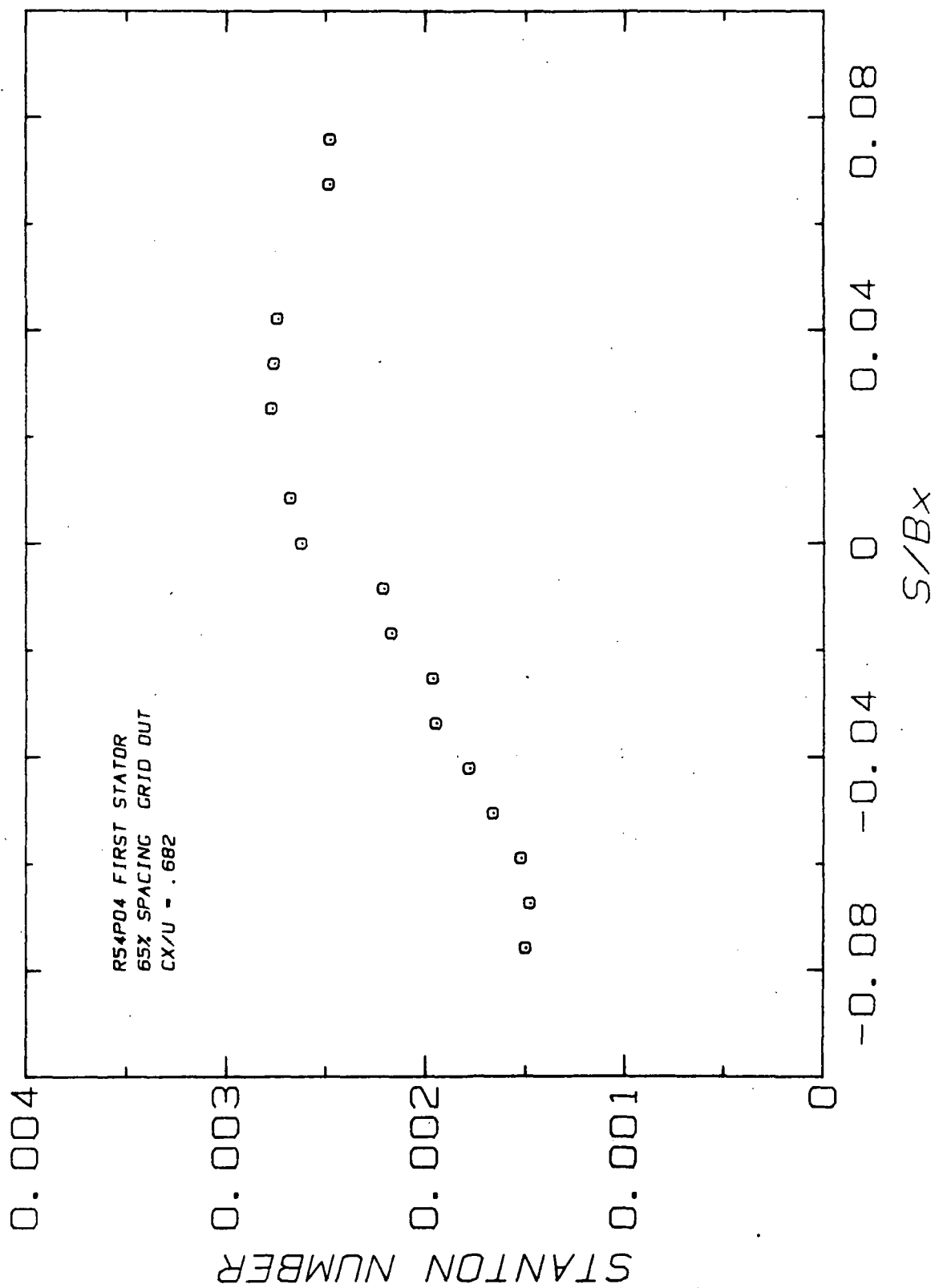
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
86	4.50	75.0	0.001641	732.0	79.3	26.3
87	4.00	66.7	0.000819	365.3	98.9	37.2
89	3.00	50.0	0.000766	341.5	101.5	38.6
90	2.50	41.7	0.000862	384.5	97.1	36.2
91	2.00	33.3	0.000813	362.8	99.2	37.3
92	1.50	25.0	0.000910	406.0	95.3	35.1

=====

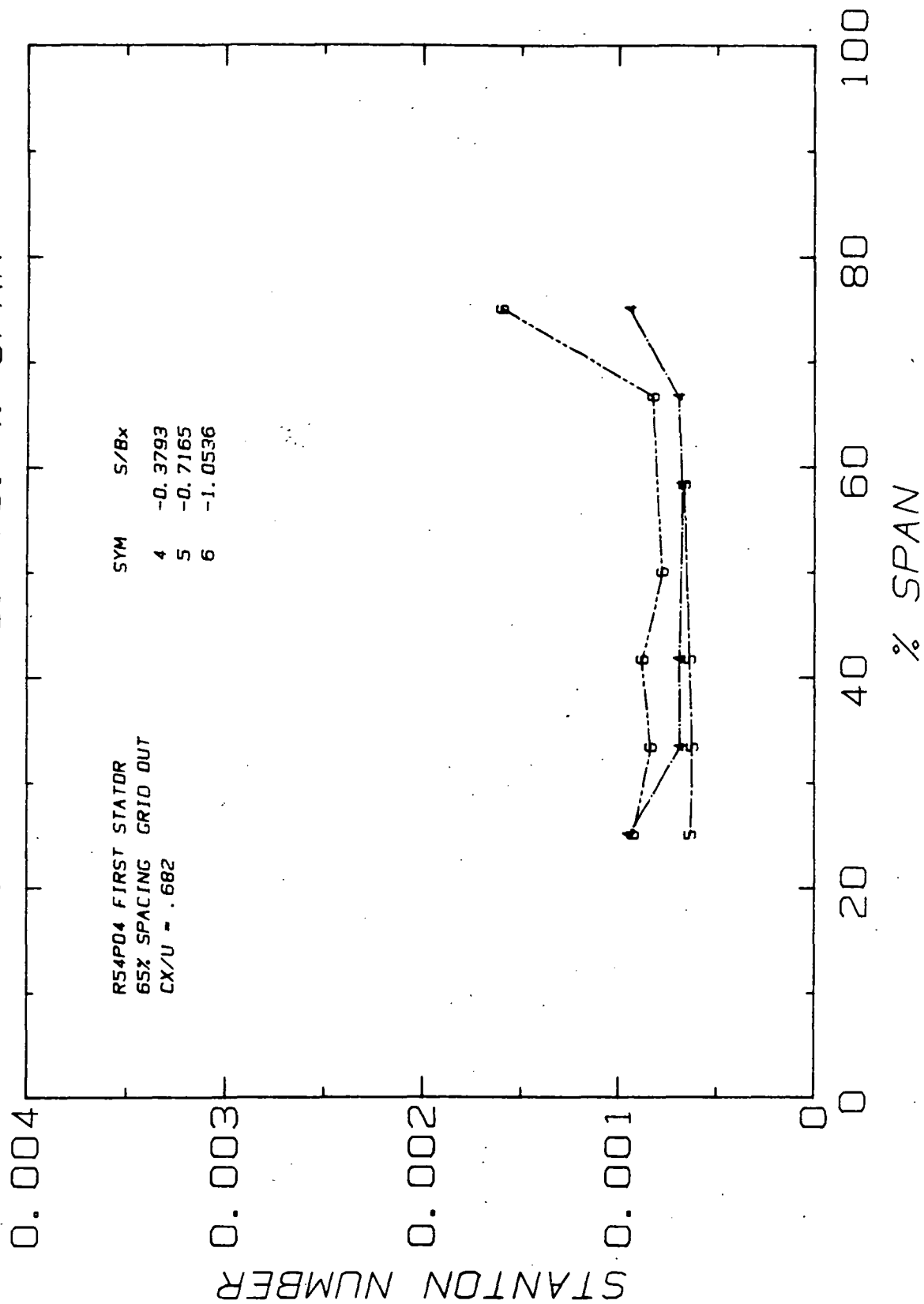
STANTON NO. VS. S/Bx



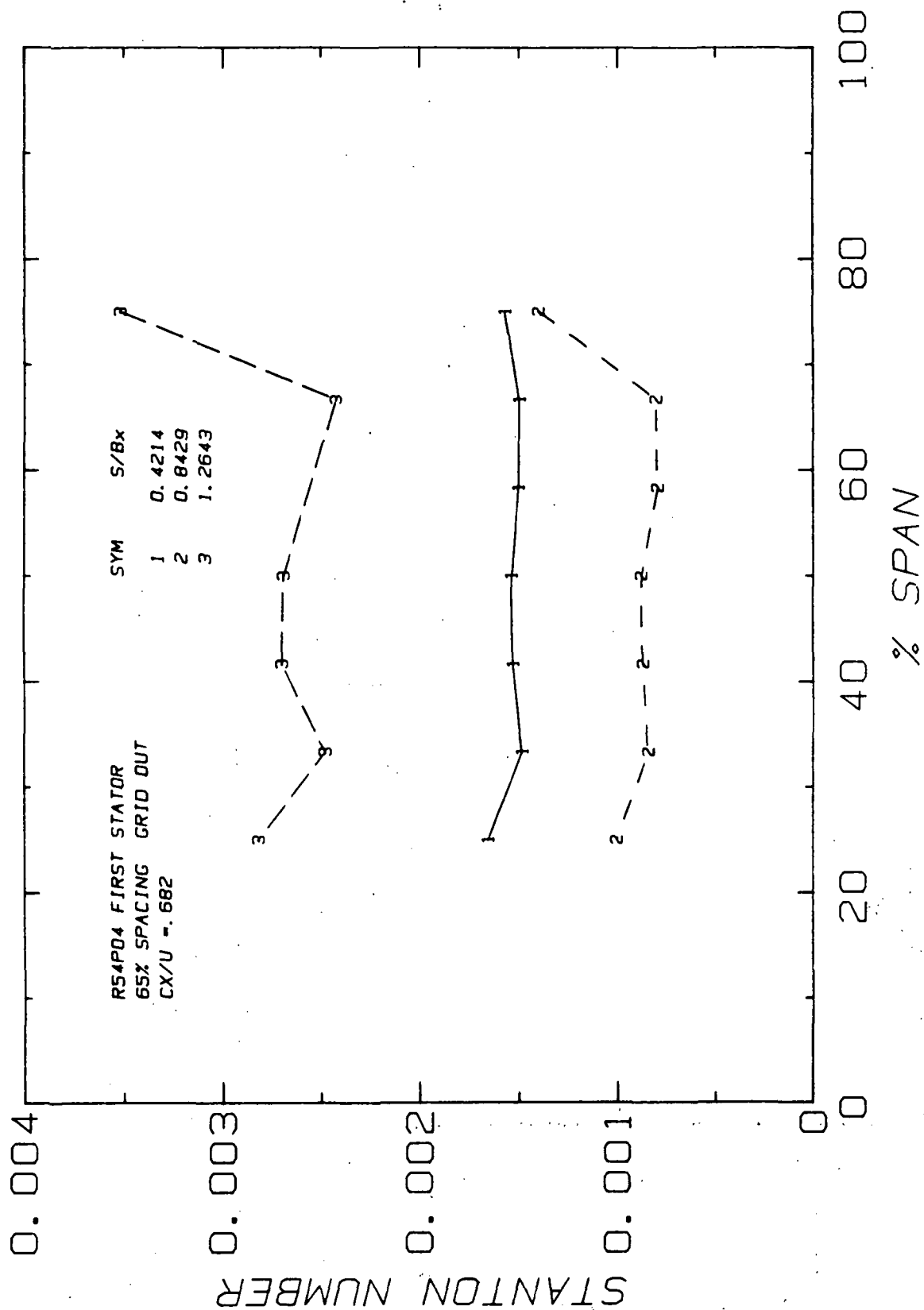
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



ORIGINAL PAGE IS
OF POOR QUALITY

FIRST STATOR CX/U=.682 GRID OUT 65X SPACING

MIDSPAN HEAT TRANSFER

RUN: 54 POINT: 4

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	59.0	205.6	0.0745	0.01480	0.1470	5.932
SI	15.0	62.7	1.1933	0.02560	1.6683	15.067

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	11.00	1.854	0.001966	869.0	79.0	26.1
2	10.50	1.770	0.002158	953.5	77.7	25.4
3	10.00	1.686	0.002196	970.7	77.4	25.2
4	9.50	1.601	0.002301	1017.0	76.6	24.8
5	9.00	1.517	0.002359	1042.4	76.2	24.6
6	8.50	1.433	0.002609	1153.0	74.7	23.7
7	8.00	1.349	0.002612	1154.5	74.7	23.7
11	7.50	1.264	0.002691	1189.4	74.2	23.5
15	7.00	1.180	0.002666	1178.2	74.4	23.5
16	6.50	1.096	0.002490	1100.4	75.4	24.1
17	6.00	1.011	0.001432	632.7	86.7	30.4
22	5.00	0.843	0.000878	388.1	102.4	39.1
26	4.50	0.759	0.000921	406.9	100.6	38.1
27	4.00	0.674	0.001043	460.8	96.1	35.6
29	3.00	0.506	0.001427	630.8	86.6	30.3
33	2.50	0.421	0.001536	678.7	84.7	29.3
37	2.00	0.337	0.001560	689.6	84.3	29.0
38	1.50	0.253	0.001638	723.8	83.1	28.4
41	0.45	0.076	0.002470	1091.6	75.1	23.9
42	0.40	0.067	0.002477	1094.5	75.1	23.9
51	-0.05	-0.008	0.002203	973.6	77.0	25.0
52	-0.10	-0.017	0.002163	955.8	77.3	25.2
53	-0.15	-0.025	0.001959	865.9	79.1	26.2
56	-0.30	-0.051	0.001656	732.1	82.6	28.1
57	-0.35	-0.059	0.001516	670.0	84.6	29.2
58	-0.40	-0.067	0.001472	650.6	85.3	29.6
45	0.25	0.042	0.002739	1210.6	73.6	23.1
46	0.20	0.034	0.002756	1217.8	73.5	23.0
47	0.15	0.025	0.002768	1223.5	73.4	23.0
49	0.05	0.008	0.002672	1181.0	73.9	23.3
50	0.00	0.000	0.002615	1155.9	74.2	23.5
54	-0.20	-0.034	0.001941	858.0	79.3	26.3
55	-0.25	-0.042	0.001775	784.4	81.1	27.3
59	-0.45	-0.076	0.001493	659.9	85.0	29.4
62	-1.00	-0.169	0.001002	443.0	96.9	36.1
63	-1.25	-0.211	0.000926	409.3	99.8	37.7
65	-1.75	-0.295	0.000797	352.3	105.8	41.0
74	-3.25	-0.548	0.000613	271.0	117.5	47.5
75	-3.75	-0.632	0.000629	277.9	116.0	46.7
83	-4.75	-0.801	0.000656	290.1	113.4	45.2
89	-6.25	-1.054	0.000774	342.0	105.7	41.0
93	-6.75	-1.138	0.000848	374.7	102.1	38.9
94	-7.25	-1.222	0.001016	449.1	95.5	35.3

FIRST STATOR CX/U=.682 GRID OUT 65X SPACING

SPANWISE HEAT TRANSFER RUN: 54 POINT: 4

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	RX
ENGLISH	59.0	205.6	0.0745	0.01480	0.1470	5.932
SI	15.0	62.7	1.1933	0.02560	1.6683	15.067

FOR UNITS SEE NOMENCLATURE

=====

S/BX = 0.42144

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
30	4.50	75.0	0.001565	691.7	84.2	29.0
31	4.00	66.7	0.001496	661.1	85.4	29.6
32	3.50	58.3	0.001500	663.0	85.3	29.6
33	3.00	50.0	0.001536	678.7	84.7	29.3
34	2.50	41.7	0.001529	675.6	84.8	29.3
35	2.00	33.3	0.001481	654.5	85.6	29.8
36	1.50	25.0	0.001655	731.4	82.9	28.3

=====

S/BX = 0.84289

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
19	4.50	75.0	0.001396	617.2	87.3	30.7
20	4.00	66.7	0.000802	354.3	106.1	41.2
21	3.50	58.3	0.000791	349.8	106.7	41.5
22	3.00	50.0	0.000878	388.1	102.4	39.1
23	2.50	41.7	0.000868	383.8	102.9	39.4
24	2.00	33.3	0.000839	370.8	104.3	40.1
25	1.50	25.0	0.001004	443.9	97.4	36.4

=====

S/BX = 1.26433

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
8	4.50	75.0	0.003516	1553.8	70.8	21.5
9	4.00	66.7	0.002423	1070.9	75.8	24.3
11	3.00	50.0	0.002691	1189.4	74.2	23.5
12	2.50	41.7	0.002701	1193.5	74.2	23.4
13	2.00	33.3	0.002476	1094.5	75.5	24.2
14	1.50	25.0	0.002817	1245.1	73.6	23.1

=====

S/BX = -0.37930

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
66	4.50	75.0	0.000941	415.7	99.2	37.3
67	4.00	66.7	0.000694	306.8	111.8	44.4
68	3.50	58.3	0.000674	298.0	113.2	45.1
70	2.50	41.7	0.000690	305.1	112.1	44.5
71	2.00	33.3	0.000685	302.9	112.4	44.7
72	1.50	25.0	0.000946	418.1	99.0	37.2

=====

S/BX = -0.71645

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
78	3.50	58.3	0.000664	293.5	113.2	45.1
80	2.50	41.7	0.000635	280.8	115.3	46.3
81	2.00	33.3	0.000622	274.7	116.4	46.9
82	1.50	25.0	0.000634	280.0	115.4	46.3

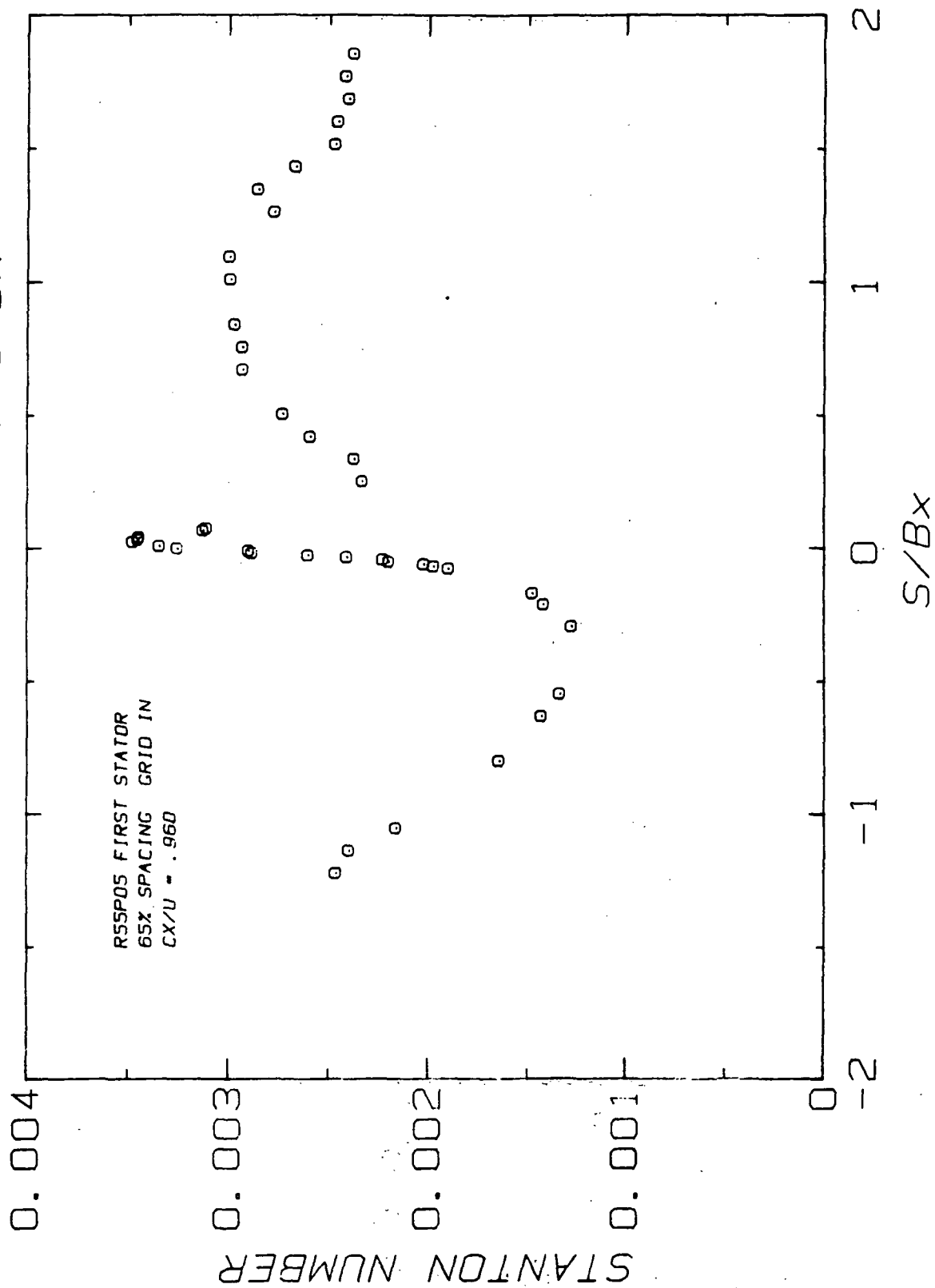
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S/BX = -1.05361

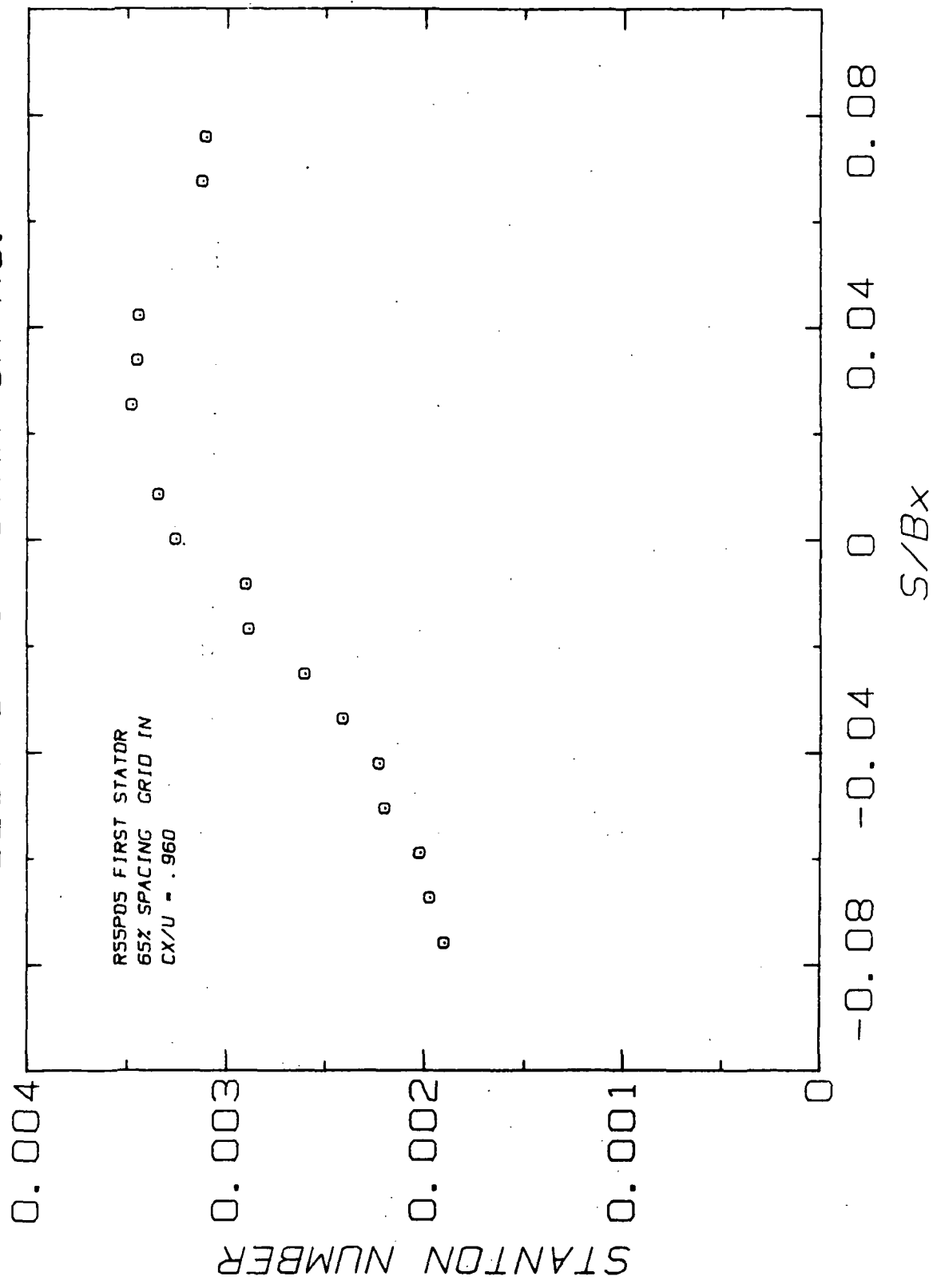
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
86	4.50	75.0	0.001600	707.0	83.2	28.5
87	4.00	66.7	0.000823	363.5	103.3	39.6
89	3.00	50.0	0.000774	342.0	105.7	41.0
90	2.50	41.7	0.000879	388.4	100.8	38.2
91	2.00	33.3	0.000833	368.3	102.8	39.3
92	1.50	25.0	0.000925	408.8	99.0	37.2

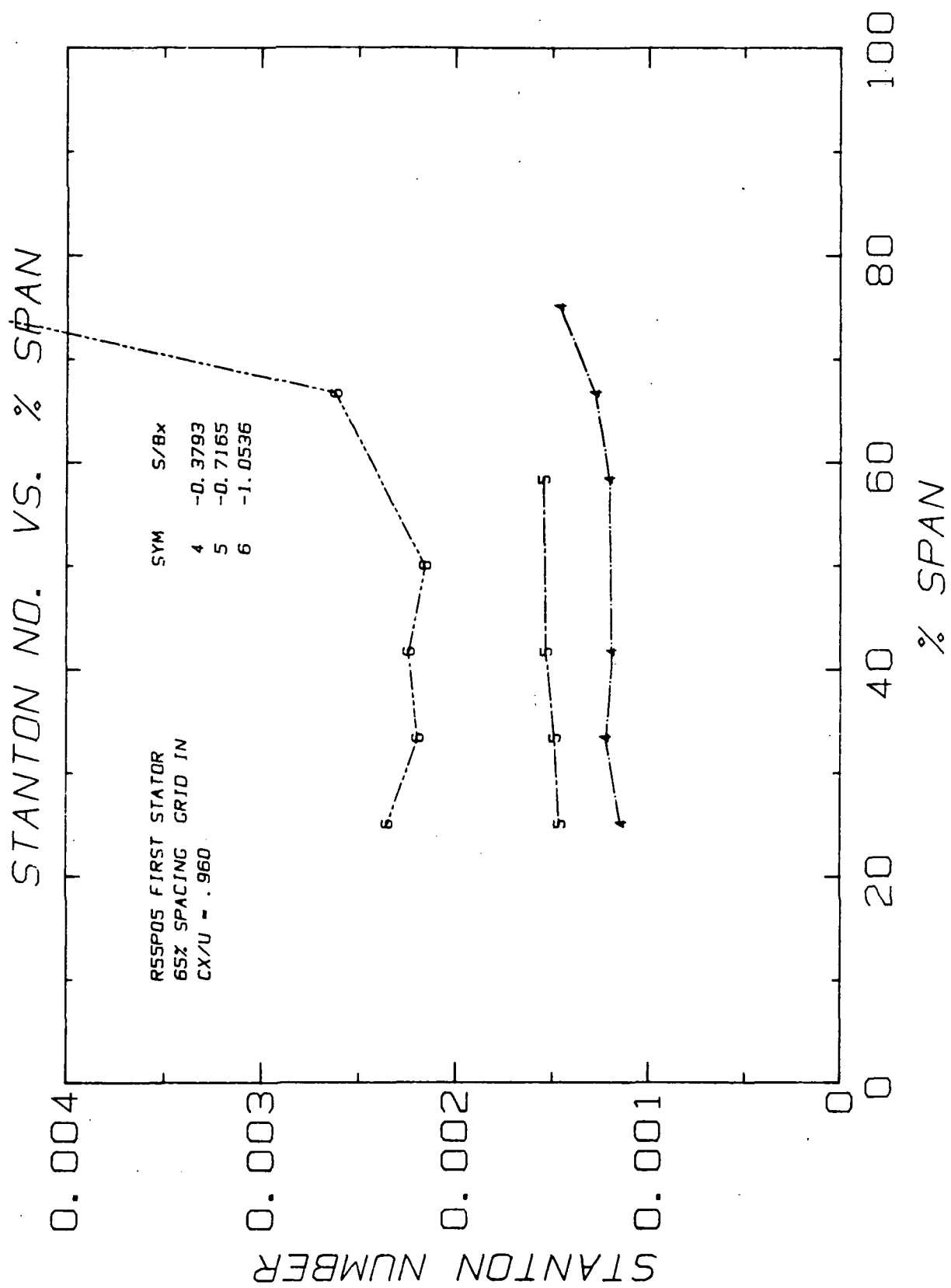
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STANTON NO. VS. S/Bx

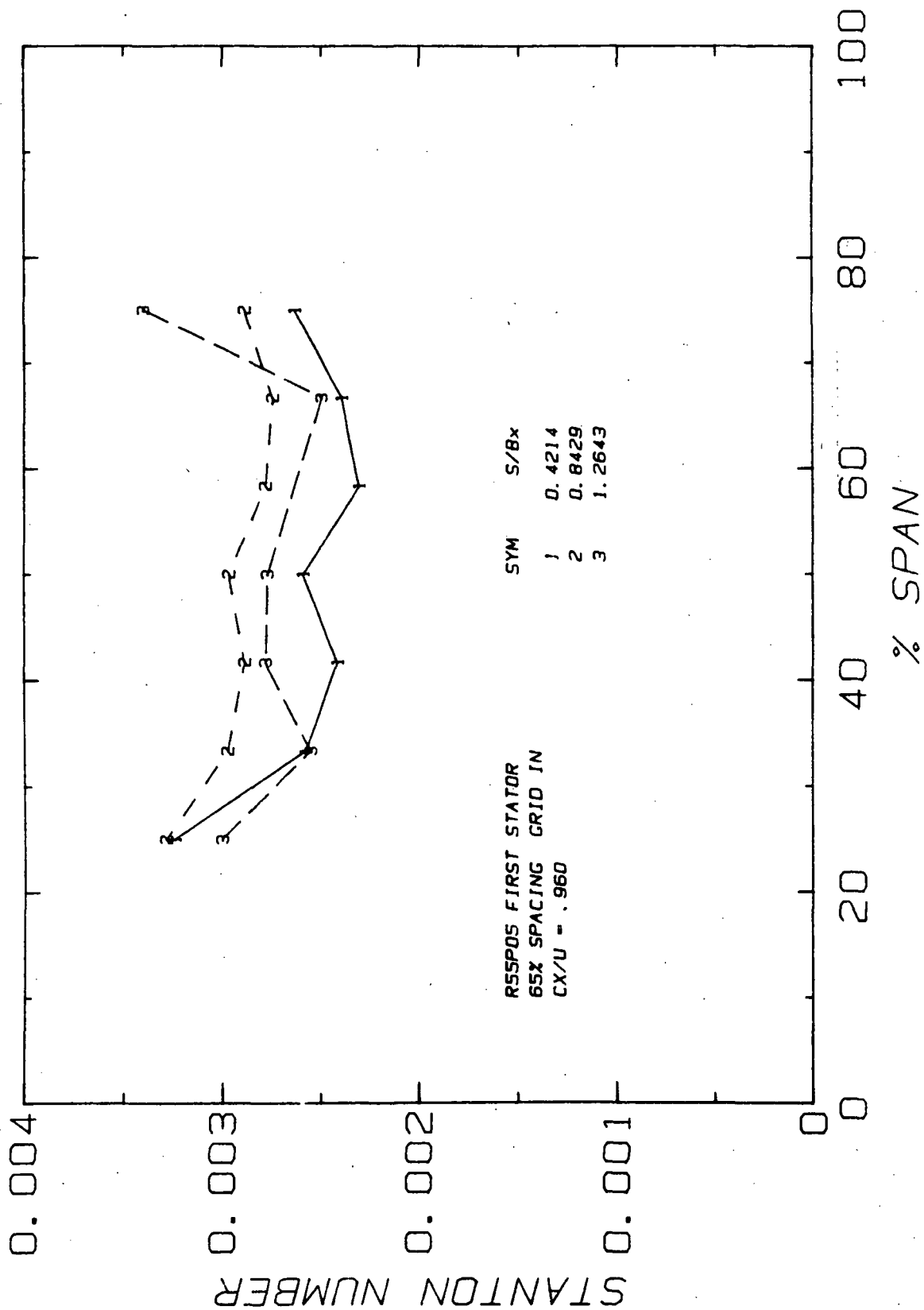


BLOW-UP OF STANTON NO.





STANTON NO. VS. % SPAN



ORIGINAL PAGE IS
OF POOR QUALITY

FIRST STATOR CX/U=.940 GRID IN 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 55 POINT: 5

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	59.6	205.3	0.0751	0.01481	0.2390	5.932
SI	15.3	62.6	1.2028	0.02562	2.7124	15.067

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	11.00	1.854	0.002374	1055.5	86.4	30.2
2	10.50	1.770	0.002415	1073.9	86.3	30.2
3	10.00	1.686	0.002399	1066.8	86.5	30.3
4	9.50	1.601	0.002455	1091.8	86.0	30.0
5	9.00	1.517	0.002468	1097.6	85.9	30.0
6	8.50	1.433	0.002665	1185.1	84.1	29.0
7	8.00	1.349	0.002853	1268.9	82.6	28.1
11	7.50	1.264	0.002771	1232.2	83.2	28.5
16	6.50	1.096	0.002994	1331.4	81.6	27.5
17	6.00	1.011	0.002988	1328.8	81.6	27.5
22	5.00	0.843	0.002966	1318.8	81.7	27.6
26	4.50	0.759	0.002926	1300.9	82.0	27.8
27	4.00	0.674	0.002926	1301.1	82.0	27.8
29	3.00	0.506	0.002724	1211.2	83.5	28.6
33	2.50	0.421	0.002588	1150.7	84.7	29.3
37	2.00	0.337	0.002367	1052.6	87.0	30.6
38	1.50	0.253	0.002326	1034.3	87.5	30.8
41	0.45	0.076	0.003103	1380.0	80.5	26.9
42	0.40	0.067	0.003121	1387.8	80.3	26.9
51	-0.05	-0.008	0.002894	1286.8	81.9	27.7
52	-0.10	-0.017	0.002877	1279.3	82.1	27.8
53	-0.15	-0.025	0.002598	1155.4	84.4	29.1
56	-0.30	-0.051	0.002192	974.7	88.8	31.6
57	-0.35	-0.059	0.002017	896.9	91.3	32.9
58	-0.40	-0.067	0.001966	874.3	92.0	33.4
45	0.25	0.042	0.003440	1529.8	78.5	25.8
46	0.20	0.034	0.003445	1532.0	78.4	25.8
47	0.15	0.025	0.003471	1543.6	78.3	25.7
49	0.05	0.008	0.003339	1484.6	79.0	26.1
50	0.00	0.000	0.003249	1444.9	79.5	26.4
54	-0.20	-0.034	0.002406	1069.7	86.3	30.2
55	-0.25	-0.042	0.002223	988.4	88.4	31.4
59	-0.45	-0.076	0.001893	841.5	93.2	34.0
62	-1.00	-0.169	0.001471	653.9	102.7	39.3
63	-1.25	-0.211	0.001415	629.1	104.3	40.2
65	-1.75	-0.295	0.001273	566.2	109.1	42.8
74	-3.25	-0.548	0.001334	593.3	106.7	41.5
75	-3.75	-0.632	0.001428	634.8	103.7	39.9
83	-4.75	-0.801	0.001641	729.9	98.1	36.7
89	-6.25	-1.054	0.002154	958.0	89.2	31.8
93	-6.75	-1.138	0.002395	1064.9	86.4	30.2
94	-7.25	-1.222	0.002457	1092.7	85.7	29.8

FIRST STATOR

CX/U=.960

GRID IN

65X SPACING

SPANWISE HEAT TRANSFER

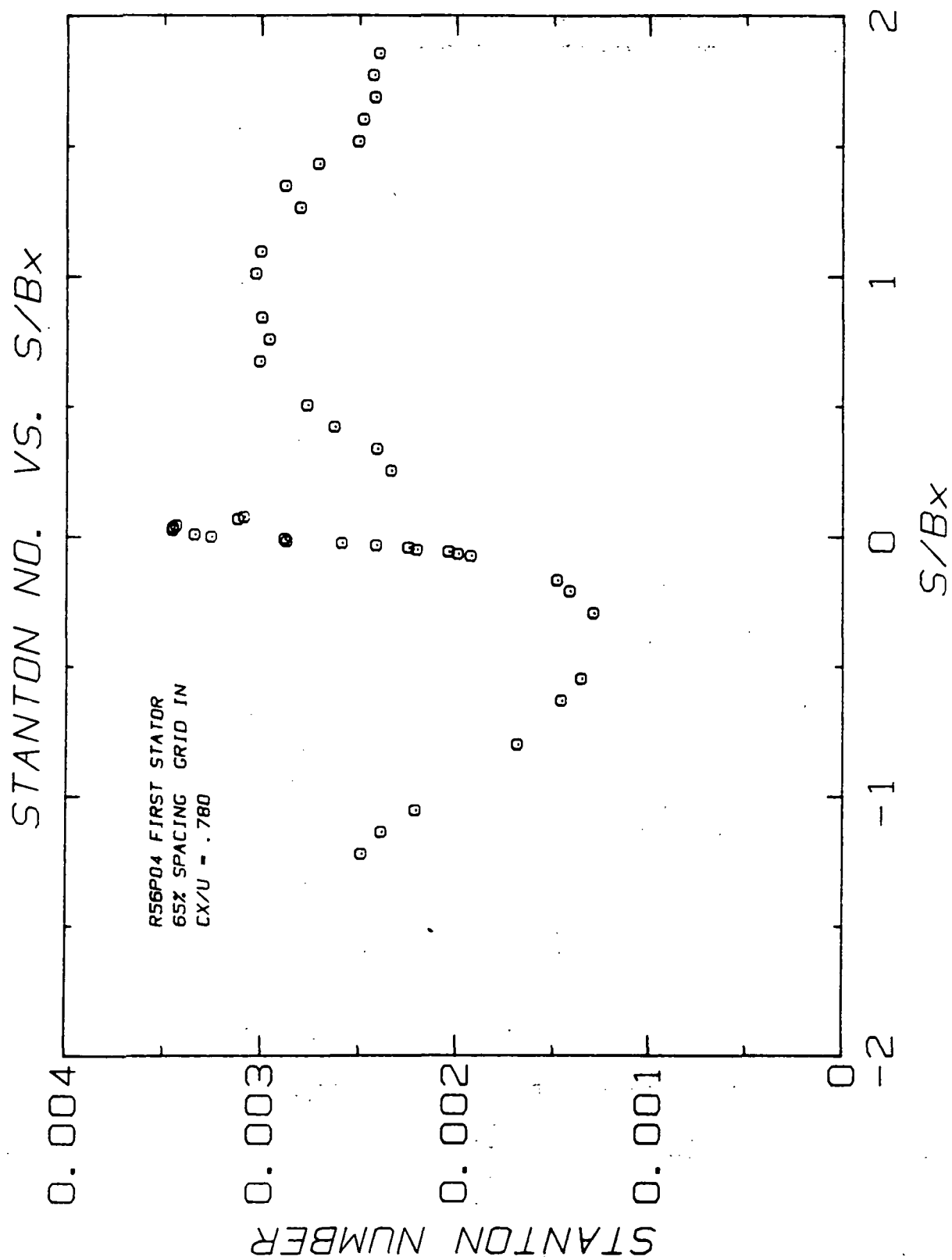
RUN: 55

POINT: 5

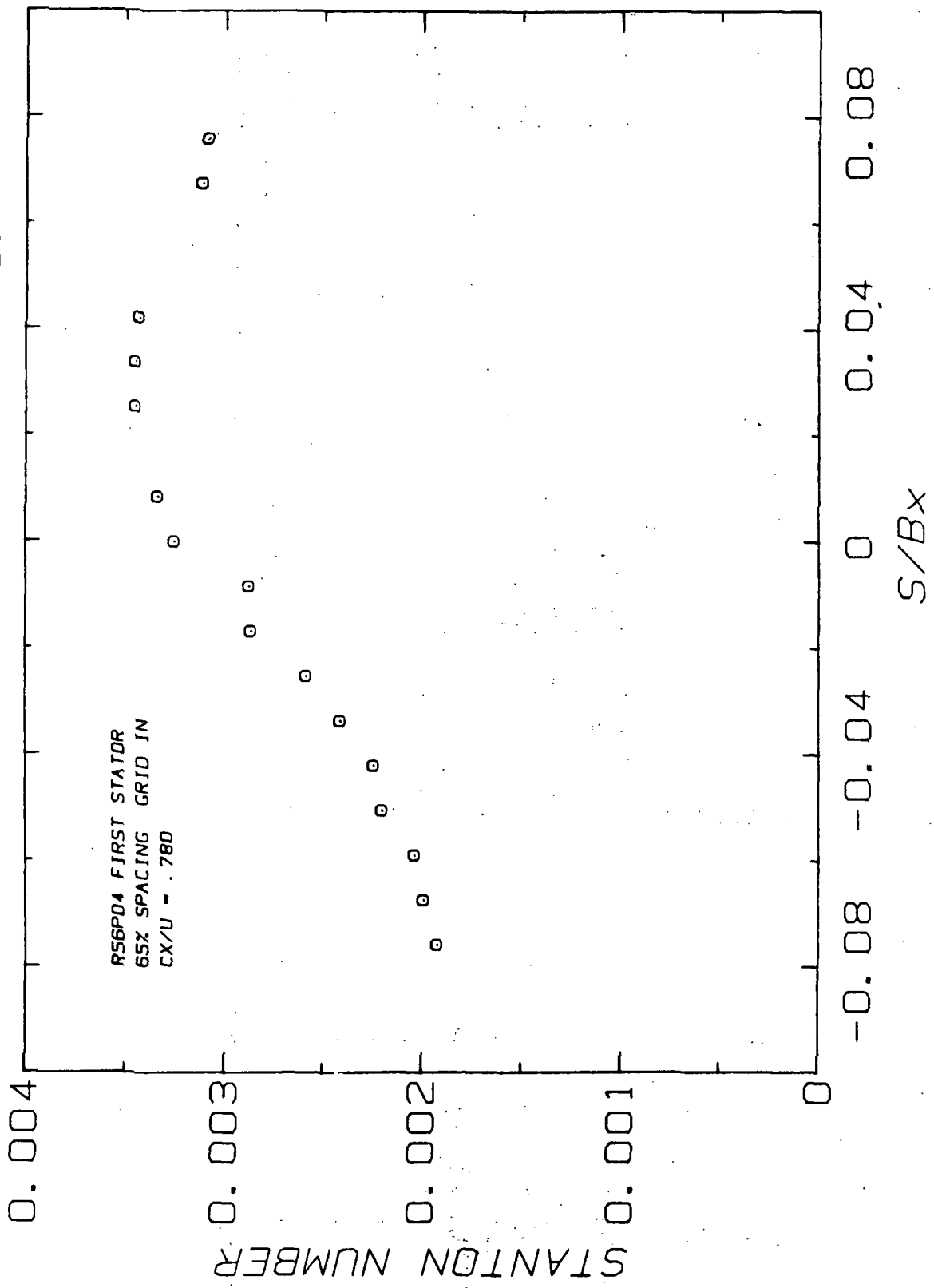
SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	59.6	205.3	0.0751	0.01481	0.2390	5.932
SI	15.3	62.6	1.2028	0.02562	2.7124	15.067

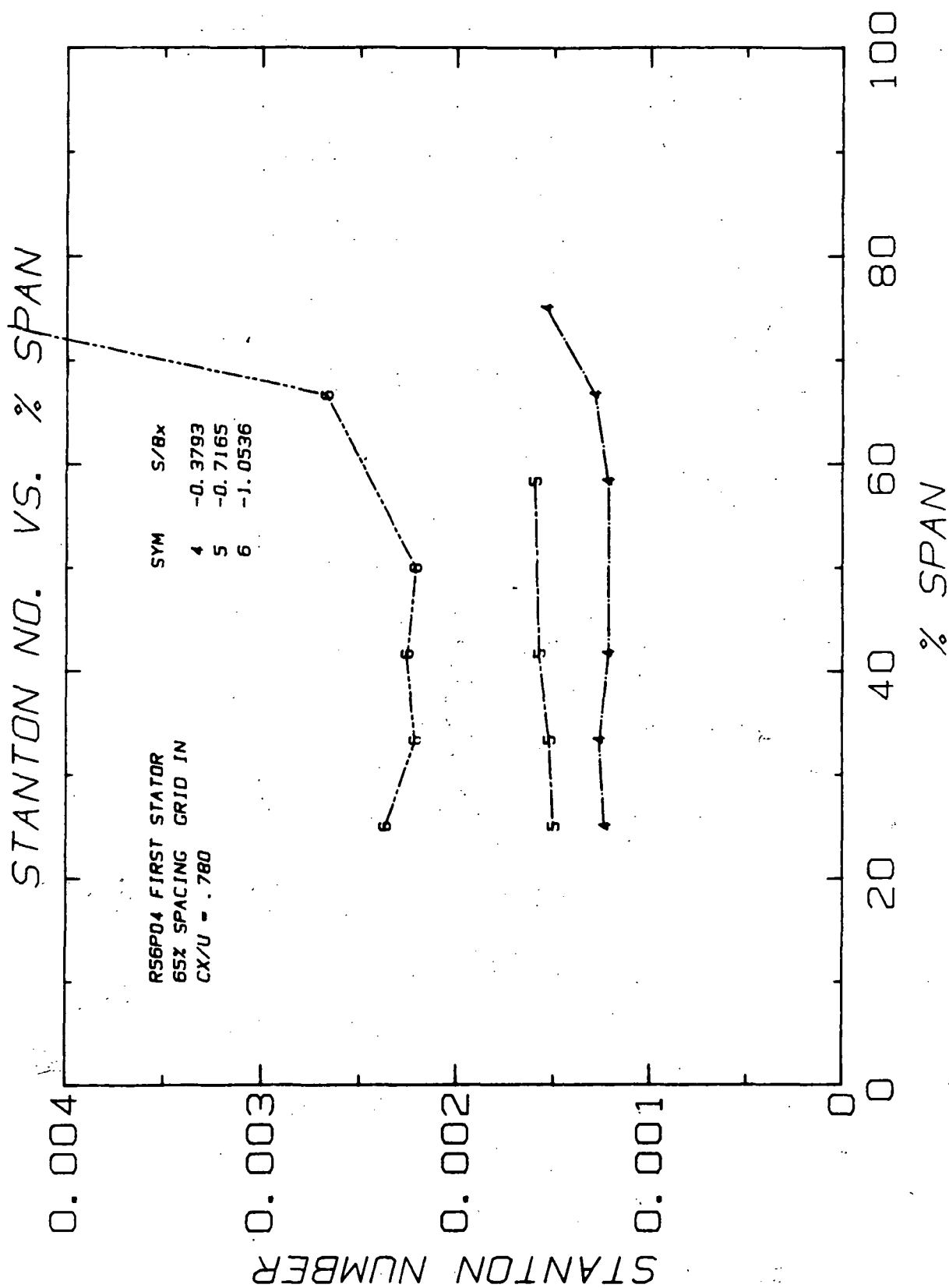
FOR UNITS SEE NOMENCLATURE

S/BX = 0.42144						
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
30	4.50	75.0	0.002628	1168.4	84.4	29.1
31	4.00	66.7	0.002390	1063.0	86.8	30.4
32	3.50	58.3	0.002303	1023.9	87.8	31.0
33	3.00	50.0	0.002588	1150.7	84.7	29.3
34	2.50	41.7	0.002414	1073.5	86.5	30.3
35	2.00	33.3	0.002576	1145.6	84.9	29.4
36	1.50	25.0	0.003245	1442.8	79.8	26.5
S/BX = 0.84289						
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
19	4.50	75.0	0.002885	1282.9	82.3	28.0
20	4.00	66.7	0.002745	1220.8	83.4	28.6
21	3.50	58.3	0.002782	1237.1	83.1	28.4
22	3.00	50.0	0.002966	1318.8	81.7	27.6
23	2.50	41.7	0.002887	1283.9	82.3	27.9
24	2.00	33.3	0.002975	1322.9	81.6	27.6
25	1.50	25.0	0.003289	1462.5	79.6	26.4
S/BX = 1.26433						
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
8	4.50	75.0	0.003397	1510.6	79.0	26.1
9	4.00	66.7	0.002495	1109.2	85.8	29.9
11	3.00	50.0	0.002771	1232.2	83.2	28.5
12	2.50	41.7	0.002783	1237.4	83.2	28.4
13	2.00	33.3	0.002551	1134.3	85.2	29.6
14	1.50	25.0	0.003003	1335.4	81.5	27.5
S/BX = -0.37930						
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
66	4.50	75.0	0.001461	649.5	103.0	39.4
67	4.00	66.7	0.001275	566.9	109.0	42.8
68	3.50	58.3	0.001203	534.9	111.7	44.3
70	2.50	41.7	0.001190	529.2	112.3	44.6
71	2.00	33.3	0.001224	544.4	110.9	43.8
72	1.50	25.0	0.001138	506.2	114.5	45.8
S/BX = -0.71645						
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
78	3.50	58.3	0.001543	686.1	100.5	38.1
80	2.50	41.7	0.001530	680.2	100.9	38.3
81	2.00	33.3	0.001485	660.4	102.0	38.9
82	1.50	25.0	0.001458	648.3	102.8	39.3
S/BX = -1.05361						
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
86	4.50	75.0	0.004608	2049.1	73.7	23.2
87	4.00	66.7	0.002616	1163.0	84.2	29.0
89	3.00	50.0	0.002154	958.0	89.2	31.8
90	2.50	41.7	0.002238	995.1	88.1	31.2
91	2.00	33.3	0.002191	974.4	88.7	31.5
92	1.50	25.0	0.002348	1044.0	86.9	30.5

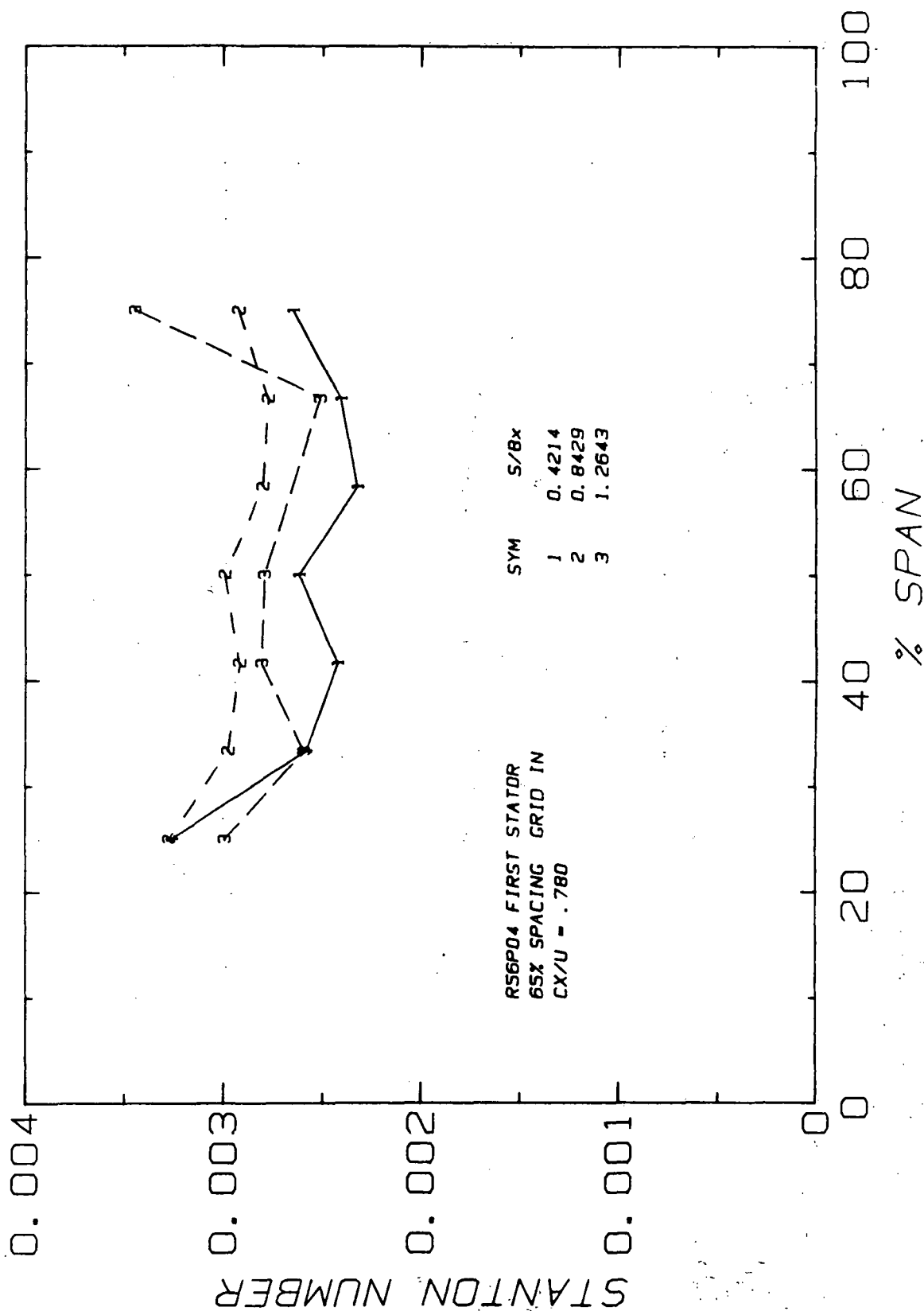


BLOW-UP OF STANTON NO.





STANTON NO. VS. % SPAN



ORIGINAL PAGE IS
OF POOR QUALITY

FIRST STATOR

CX/U=.780

GRID IN

65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 56

POINT: 4

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	EX
ENGLISH	56.2	204.6	0.0750	0.01473	0.2540	5.932
SI	13.4	62.3	1.2018	0.02548	2.8826	15.067

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	11.00	1.854	0.002392	1064.5	84.9	29.4
2	10.50	1.770	0.002423	1078.4	84.8	29.3
3	10.00	1.686	0.002414	1074.3	85.0	29.4
4	9.50	1.601	0.002474	1101.1	84.3	29.1
5	9.00	1.517	0.002499	1111.9	84.2	29.0
6	8.50	1.433	0.002703	1203.0	82.2	27.9
7	8.00	1.349	0.002871	1277.5	80.8	27.1
11	7.50	1.264	0.002793	1243.1	81.4	27.4
16	6.50	1.096	0.002997	1333.8	79.8	26.5
17	6.00	1.011	0.003022	1345.1	79.5	26.4
22	5.00	0.843	0.002990	1330.7	79.8	26.5
26	4.50	0.759	0.002953	1314.1	80.0	26.7
27	4.00	0.674	0.003002	1335.8	79.6	26.5
29	3.00	0.506	0.002758	1227.6	81.6	27.5
33	2.50	0.421	0.002619	1165.5	82.9	28.3
37	2.00	0.337	0.002403	1069.6	85.2	29.6
38	1.50	0.253	0.002327	1035.8	86.1	30.1
41	0.45	0.076	0.003082	1371.5	78.8	26.0
42	0.40	0.067	0.003112	1385.1	78.6	25.9
51	-0.05	-0.008	0.002873	1278.6	80.4	26.9
52	-0.10	-0.017	0.002862	1273.8	80.5	26.9
53	-0.15	-0.025	0.002581	1148.7	83.0	28.3
56	-0.30	-0.051	0.002194	976.2	87.6	30.9
57	-0.35	-0.059	0.002031	903.8	90.0	32.2
58	-0.40	-0.067	0.001984	883.0	90.8	32.6
45	0.25	0.042	0.003429	1526.1	76.5	24.7
46	0.20	0.034	0.003446	1533.4	76.4	24.7
47	0.15	0.025	0.003447	1534.1	76.4	24.7
49	0.05	0.008	0.003334	1483.7	77.1	25.1
50	0.00	0.000	0.003249	1445.8	77.6	25.4
54	-0.20	-0.034	0.002406	1070.6	84.9	29.4
55	-0.25	-0.042	0.002238	995.8	87.0	30.6
59	-0.45	-0.076	0.001918	853.4	91.9	33.3
62	-1.00	-0.169	0.001475	656.2	102.4	39.1
63	-1.25	-0.211	0.001409	626.9	104.5	40.3
65	-1.75	-0.295	0.001286	572.2	108.9	42.7
74	-3.25	-0.548	0.001351	601.2	106.3	41.3
75	-3.75	-0.632	0.001454	647.1	102.8	39.4
83	-4.75	-0.801	0.001680	747.8	96.7	35.9
89	-6.25	-1.054	0.002203	980.3	87.4	30.8
93	-6.75	-1.138	0.002380	1059.0	85.1	29.5
94	-7.25	-1.222	0.002481	1104.3	84.0	28.9

FIRST STATOR

CX/U=.780

GRID IN

65% SPACING

SPANWISE HEAT TRANSFER

RUN: 56 POINT: 4

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	56.2	204.6	0.0750	0.01473	0.2540	5.932
SI	13.4	62.3	1.2018	0.02548	2.8826	15.067

FOR UNITS SEE NOMENCLATURE

=====

S/BX = 0.42144

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
30	4.50	75.0	0.002649	1178.9	82.6	28.1
31	4.00	66.7	0.002406	1070.9	85.2	29.5
32	3.50	58.3	0.002322	1033.5	86.2	30.1
33	3.00	50.0	0.002619	1165.5	82.9	28.3
34	2.50	41.7	0.002424	1078.5	85.0	29.4
35	2.00	33.3	0.002582	1149.1	83.3	28.5
36	1.50	25.0	0.003253	1447.6	77.8	25.4

=====

S/BX = 0.84289

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
19	4.50	75.0	0.002924	1301.1	80.3	26.8
20	4.00	66.7	0.002775	1235.0	81.5	27.5
21	3.50	58.3	0.002802	1246.8	81.3	27.4
22	3.00	50.0	0.002990	1330.7	79.8	26.5
23	2.50	41.7	0.002920	1299.3	80.3	26.8
24	2.00	33.3	0.002975	1323.9	79.9	26.6
25	1.50	25.0	0.003269	1454.9	77.8	25.4

=====

S/BX = 1.26433

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
8	4.50	75.0	0.003447	1533.9	76.7	24.9
9	4.00	66.7	0.002512	1118.0	84.1	29.0
11	3.00	50.0	0.002793	1243.1	81.4	27.4
12	2.50	41.7	0.002809	1249.9	81.3	27.4
13	2.00	33.3	0.002593	1154.0	83.3	28.5
14	1.50	25.0	0.002990	1330.6	79.8	26.6

=====

S/BX = -0.37930

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
66	4.50	75.0	0.001533	682.4	100.7	38.2
67	4.00	66.7	0.001283	571.2	108.9	42.7
68	3.50	58.3	0.001215	540.7	111.7	44.3
70	2.50	41.7	0.001217	541.5	111.6	44.2
71	2.00	33.3	0.001261	561.2	109.8	43.2
72	1.50	25.0	0.001234	549.3	110.9	43.8

=====

S/BX = -0.71645

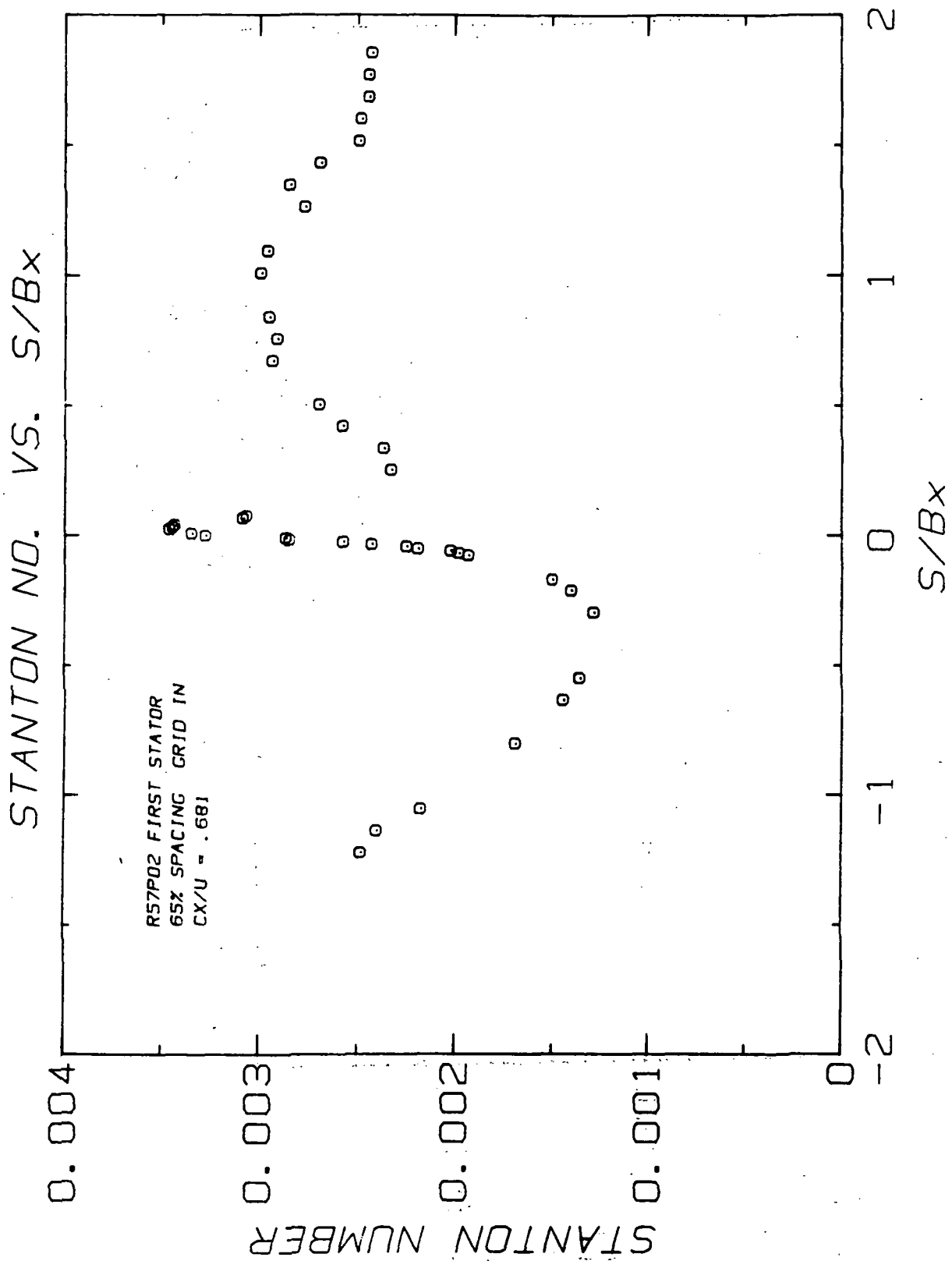
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
78	3.50	58.3	0.001590	707.8	99.0	37.2
80	2.50	41.7	0.001571	699.0	99.5	37.5
81	2.00	33.3	0.001517	675.1	100.9	38.3
82	1.50	25.0	0.001498	666.6	101.5	38.6

=====

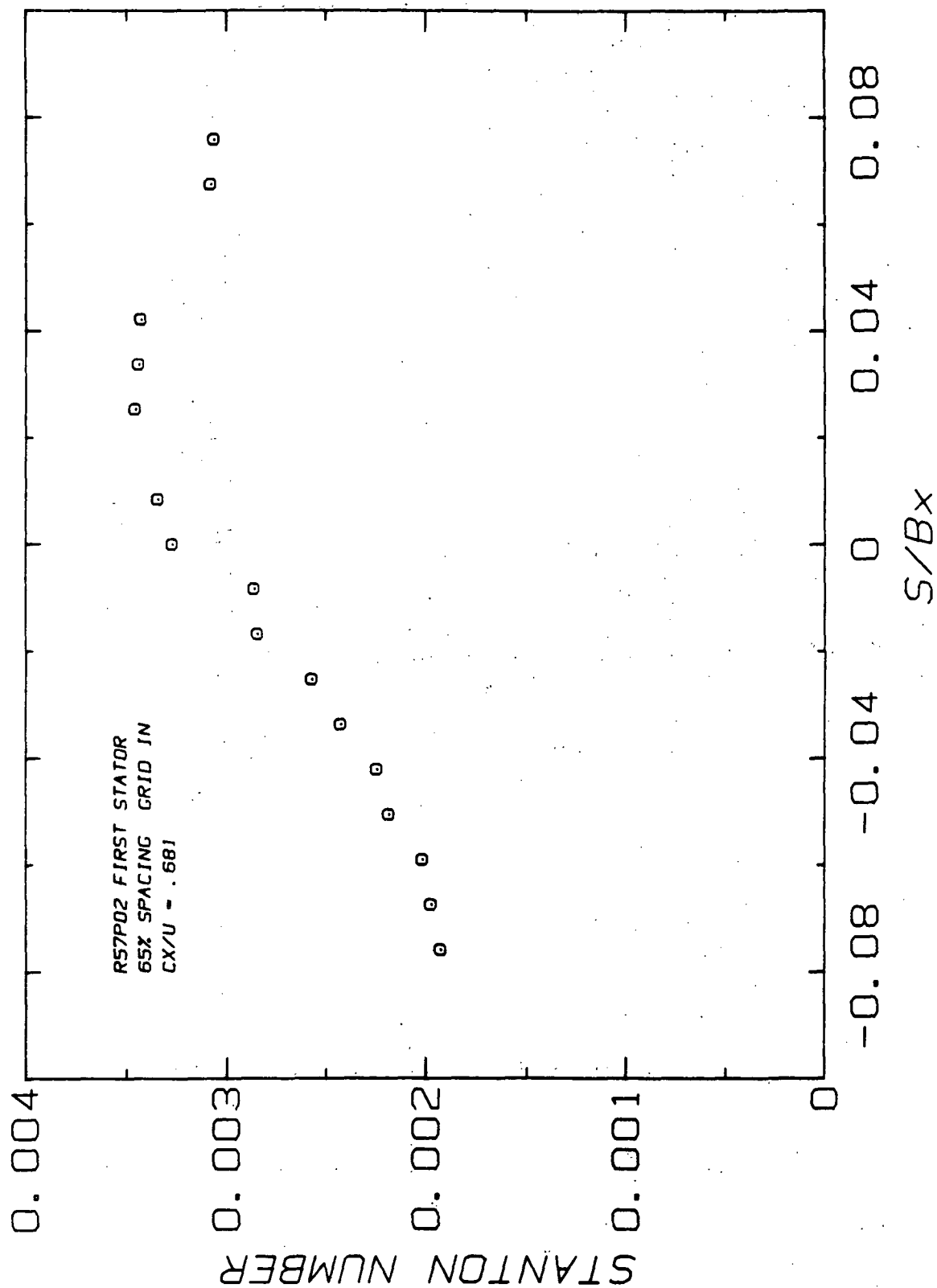
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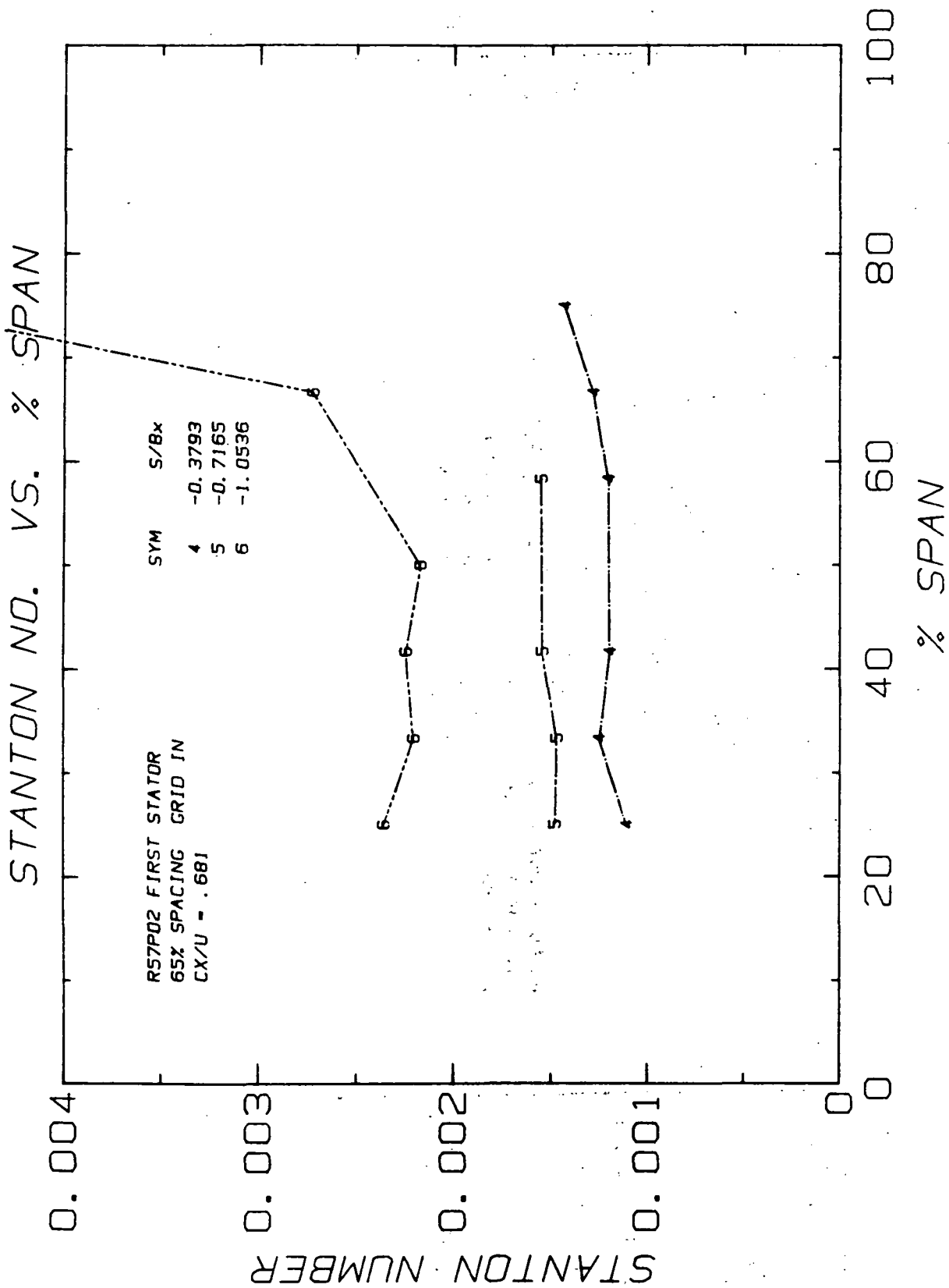
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
86	4.50	75.0	0.004763	2119.7	70.9	21.6
87	4.00	66.7	0.002665	1185.9	82.2	27.9
89	3.00	50.0	0.002203	980.3	87.4	30.8
90	2.50	41.7	0.002249	1001.0	86.7	30.4
91	2.00	33.3	0.002207	982.0	87.3	30.7
92	1.50	25.0	0.002368	1053.9	85.3	29.6

=====

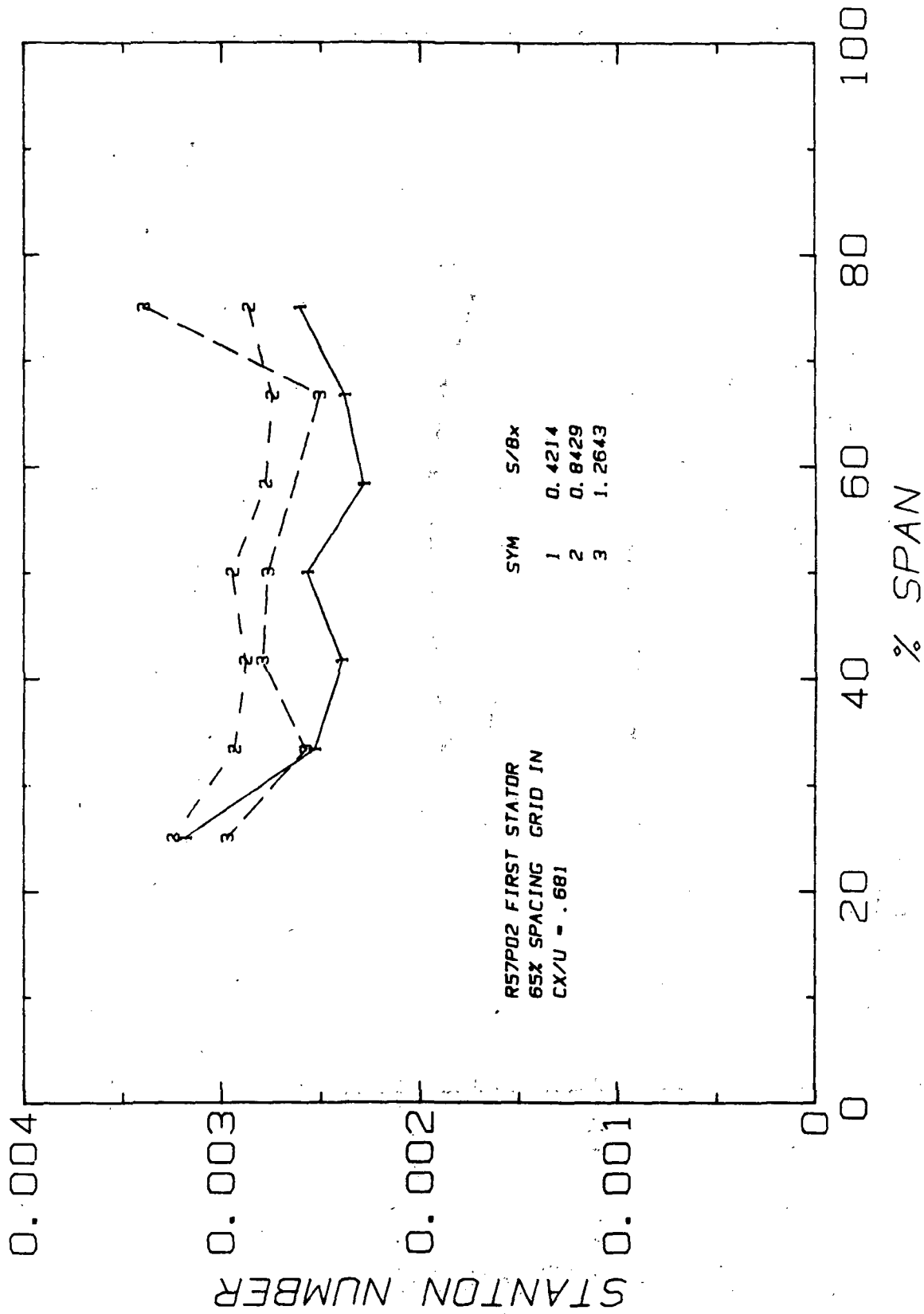


BLOW-UP OF STANTON NO.





STANTON NO. VS. % SPAN



ORIGINAL PAGE IS
OF POOR QUALITY

FIRST STATOR

CX/U=.681

GRID IN

65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 57

POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	58.2	205.4	0.0740	0.01478	0.2440	5.932
SI	14.6	62.6	1.1858	0.02556	2.7692	15.067

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	11.00	1.854	0.002418	1062.4	85.4	29.7
2	10.50	1.770	0.002434	1069.4	85.5	29.7
3	10.00	1.686	0.002433	1069.2	85.6	29.8
4	9.50	1.601	0.002477	1088.2	85.2	29.5
5	9.00	1.517	0.002486	1092.3	85.2	29.5
6	8.50	1.433	0.002685	1179.7	83.3	28.5
7	8.00	1.349	0.002839	1247.6	82.0	27.8
11	7.50	1.264	0.002766	1215.4	82.6	28.1
16	6.50	1.096	0.002956	1298.7	81.1	27.3
17	6.00	1.011	0.002989	1313.4	80.9	27.1
22	5.00	0.843	0.002945	1293.9	81.2	27.3
26	4.50	0.759	0.002904	1275.9	81.5	27.5
27	4.00	0.674	0.002926	1285.9	81.3	27.4
29	3.00	0.506	0.002688	1181.0	83.2	28.4
33	2.50	0.421	0.002568	1128.4	84.3	29.1
37	2.00	0.337	0.002359	1036.4	86.5	30.3
38	1.50	0.253	0.002319	1019.1	87.0	30.6
41	0.45	0.076	0.003059	1344.2	80.0	26.7
42	0.40	0.067	0.003078	1352.3	79.9	26.6
51	-0.05	-0.008	0.002859	1256.3	81.5	27.5
52	-0.10	-0.017	0.002840	1247.8	81.7	27.6
53	-0.15	-0.025	0.002567	1128.0	84.1	28.9
56	-0.30	-0.051	0.002180	957.8	88.5	31.4
57	-0.35	-0.059	0.002012	884.1	90.9	32.7
58	-0.40	-0.067	0.001970	865.8	91.6	33.1
45	0.25	0.042	0.003427	1505.7	77.7	25.4
46	0.20	0.034	0.003437	1510.3	77.7	25.4
47	0.15	0.025	0.003454	1517.9	77.6	25.3
49	0.05	0.008	0.003342	1468.3	78.2	25.7
50	0.00	0.000	0.003270	1437.0	78.6	25.9
54	-0.20	-0.034	0.002421	1063.8	85.6	29.8
55	-0.25	-0.042	0.002239	983.9	87.7	31.0
59	-0.45	-0.076	0.001921	844.2	92.4	33.6
62	-1.00	-0.169	0.001492	655.7	102.0	38.9
63	-1.25	-0.211	0.001395	612.8	104.9	40.5
65	-1.75	-0.295	0.001277	561.2	109.0	42.8
74	-3.25	-0.548	0.001350	593.2	106.2	41.2
75	-3.75	-0.632	0.001439	632.2	103.4	39.6
83	-4.75	-0.801	0.001684	739.8	96.9	36.1
89	-6.25	-1.054	0.002167	952.4	88.6	31.4
93	-6.75	-1.138	0.002396	1052.8	85.8	29.9
94	-7.25	-1.222	0.002476	1088.1	84.9	29.4

FIRST STATOR

CX/U=.681

GRID IN

65% SPACING

SPANWISE HEAT TRANSFER

RUN: 57

POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	58.2	205.4	0.0740	0.01478	0.2440	5.932
SI	14.6	62.6	1.1858	0.02556	2.7692	15.067

FOR UNITS SEE NOMENCLATURE

S/BX = 0.42144						
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
30	4.50	75.0	0.002607	1145.8	83.9	28.9
31	4.00	66.7	0.002377	1044.5	86.4	30.2
32	3.50	58.3	0.002283	1002.9	87.5	30.8
33	3.00	50.0	0.002568	1128.4	84.3	29.1
34	2.50	41.7	0.002392	1051.2	86.2	30.1
35	2.00	33.3	0.002529	1111.3	84.7	29.3
36	1.50	25.0	0.003179	1396.9	79.4	26.3

S/BX = 0.84289						
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
19	4.50	75.0	0.002866	1259.2	81.8	27.7
20	4.00	66.7	0.002741	1204.6	82.8	28.2
21	3.50	58.3	0.002778	1220.7	82.5	28.1
22	3.00	50.0	0.002945	1293.9	81.2	27.3
23	2.50	41.7	0.002876	1263.9	81.7	27.6
24	2.00	33.3	0.002933	1288.6	81.2	27.4
25	1.50	25.0	0.003245	1425.8	79.1	26.2

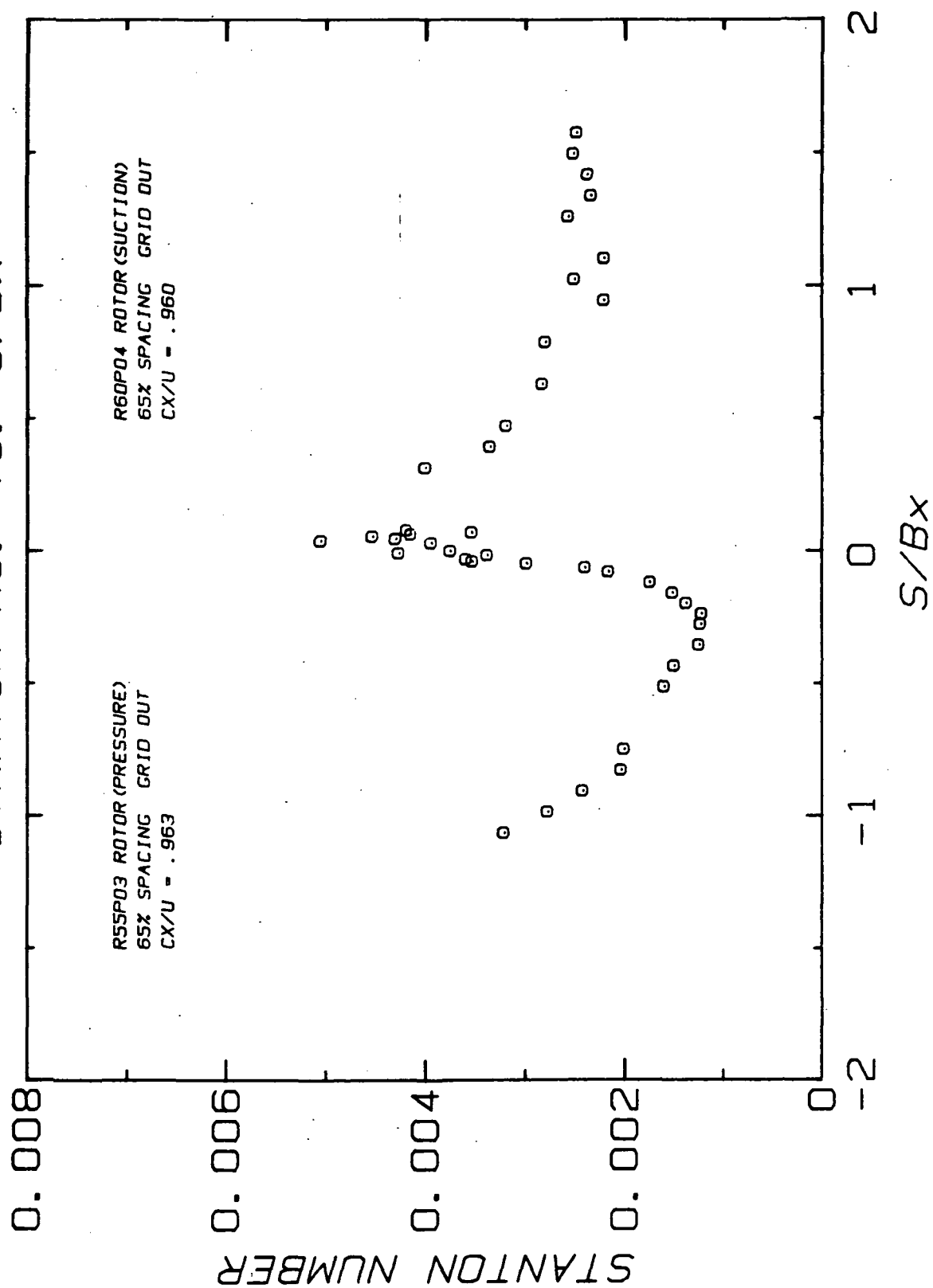
S/BX = 1.26433						
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
8	4.50	75.0	0.003397	1492.8	78.2	25.7
9	4.00	66.7	0.002503	1099.7	85.1	29.5
11	3.00	50.0	0.002766	1215.4	82.6	28.1
12	2.50	41.7	0.002792	1227.0	82.4	28.0
13	2.00	33.3	0.002573	1130.8	84.4	29.1
14	1.50	25.0	0.002970	1305.1	81.0	27.2

S/BX = -0.37930						
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
66	4.50	75.0	0.001433	629.7	103.7	39.9
67	4.00	66.7	0.001278	561.6	109.0	42.8
68	3.50	58.3	0.001201	527.5	112.0	44.5
70	2.50	41.7	0.001192	523.7	112.4	44.7
71	2.00	33.3	0.001248	548.5	110.1	43.4
72	1.50	25.0	0.001104	485.1	116.4	46.9

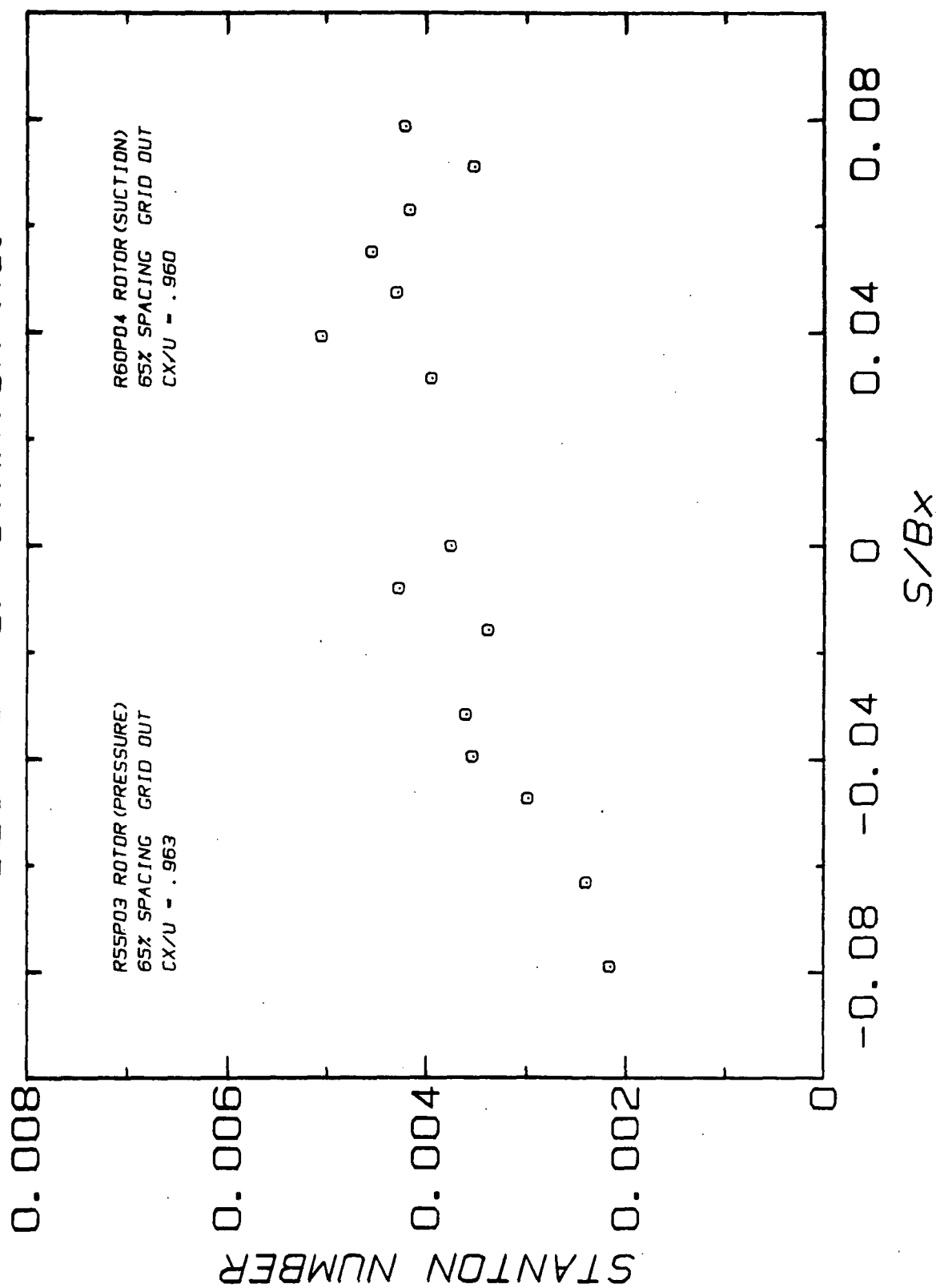
S/BX = -0.71645						
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
78	3.50	58.3	0.001552	681.8	100.2	37.9
80	2.50	41.7	0.001543	678.2	100.4	38.0
81	2.00	33.3	0.001471	646.2	102.4	39.1
82	1.50	25.0	0.001479	649.7	102.1	39.0

S/BX = -1.05361						
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
86	4.50	75.0	0.004934	2168.2	71.8	22.1
87	4.00	66.7	0.002725	1197.3	82.6	28.1
89	3.00	50.0	0.002167	952.4	88.6	31.4
90	2.50	41.7	0.002242	985.1	87.6	30.9
91	2.00	33.3	0.002204	968.4	88.1	31.2
92	1.50	25.0	0.002357	1035.7	86.2	30.1

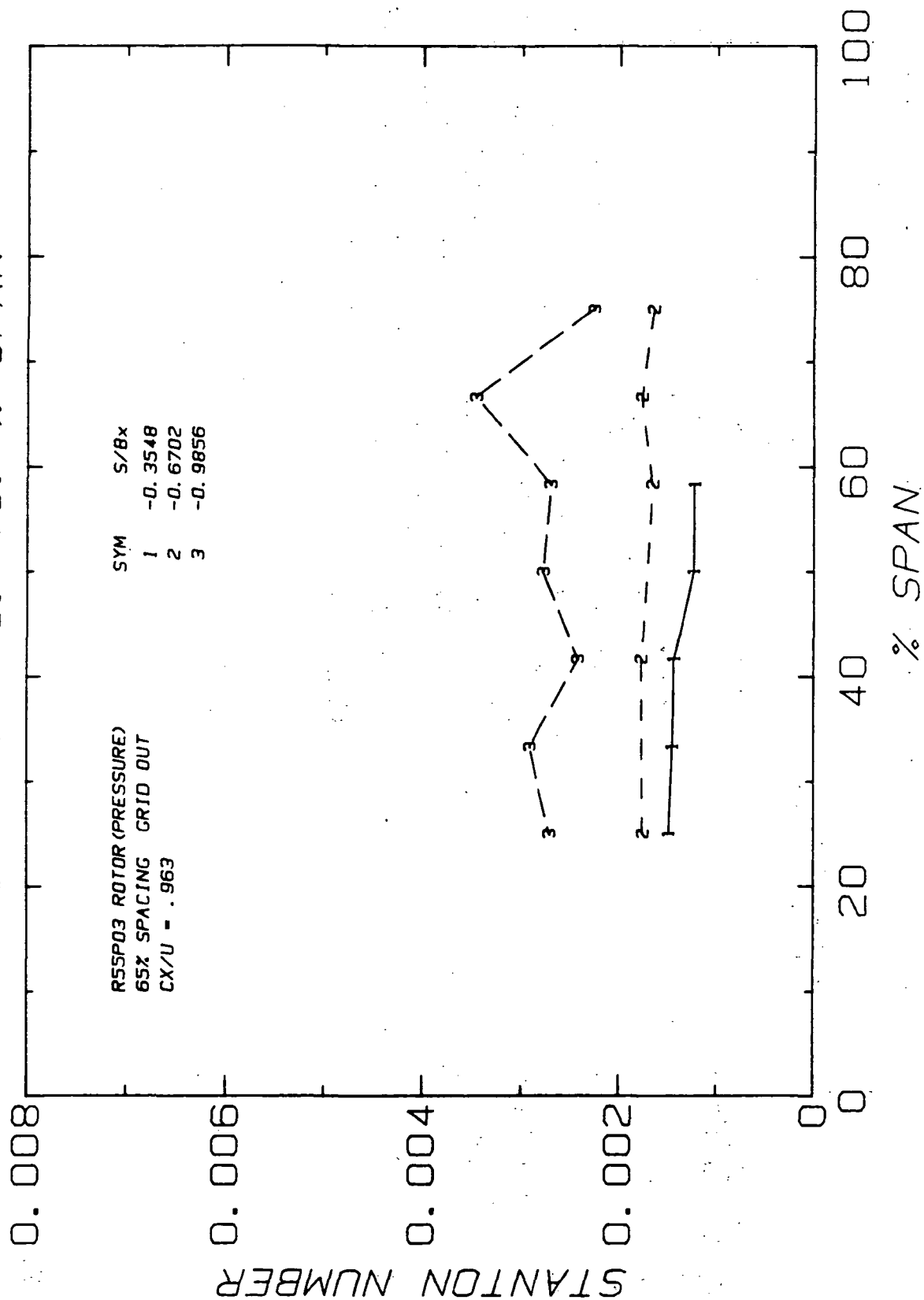
STANTON NO. VS. S/Bx



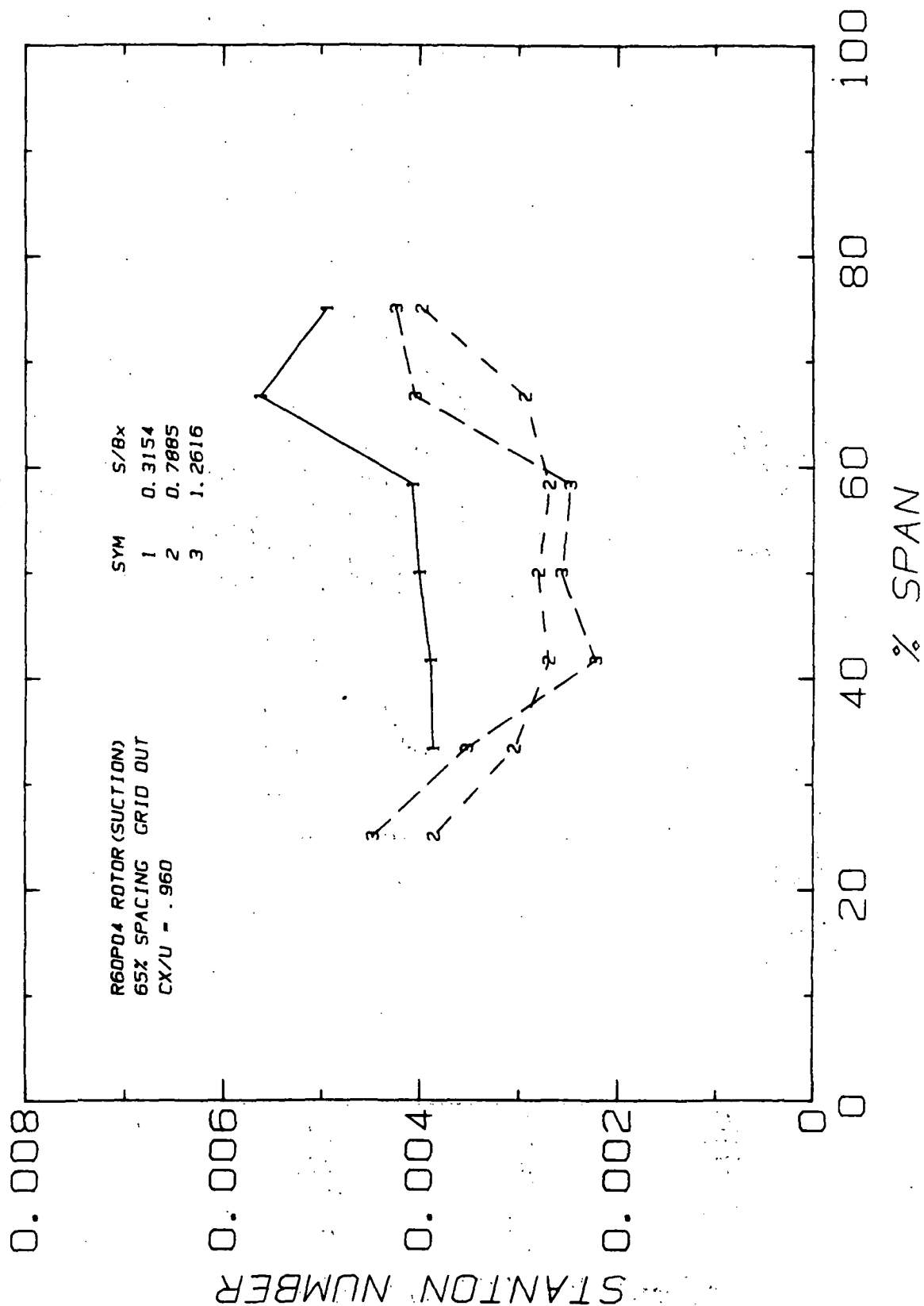
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



ORIGINAL PAGE IS
OF POOR QUALITY

ROTOR(PRESSURE) CX/U=.963 GRID OUT 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 55 POINT: 3

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	59.9	176.4	0.0741	0.01482	0.2200	6.341
SI	15.5	53.8	1.1868	0.02563	2.4968	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
39	0.45	0.071	0.003519	1416.8	79.9	26.6
42	0.30	0.047	0.004290	1726.8	76.4	24.7
59	-0.75	-0.118	0.001718	691.7	99.7	37.6
60	-1.00	-0.158	0.001492	600.6	105.5	40.8
61	-1.25	-0.197	0.001355	545.5	109.9	43.3
62	-1.50	-0.237	0.001201	483.5	115.9	46.6
63	-1.75	-0.276	0.001213	488.2	115.4	46.4
67	-2.25	-0.355	0.001230	495.2	114.7	46.0
71	-2.75	-0.434	0.001479	595.5	106.1	41.1
72	-3.25	-0.513	0.001582	636.8	103.2	39.5
81	-4.75	-0.749	0.001994	802.8	94.6	34.8
82	-5.25	-0.828	0.002023	814.5	94.1	34.5
83	-5.75	-0.907	0.002409	969.8	88.8	31.6
87	-6.25	-0.986	0.002762	1112.0	85.3	29.6
91	-6.75	-1.065	0.003204	1289.9	81.9	27.7

ROTOR(PRESSURE) CX/U=.943 GRID OUT 65% SPACING

SPANWISE HEAT TRANSFER RUN: 55 POINT: 3

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	59.9	176.4	0.0741	0.01482	0.2200	6.341
SI	15.5	53.8	1.1868	0.02563	2.4968	16.106

FOR UNITS SEE NOMENCLATURE

=====							
S/BX = -0.35483							
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)	
66	3.50	58.3	0.001218	490.3	115.2	46.2	
67	3.00	50.0	0.001230	495.2	114.7	46.0	
68	2.50	41.7	0.001430	575.8	107.5	42.0	
69	2.00	33.3	0.001447	582.6	107.0	41.7	
70	1.50	25.0	0.001487	598.5	105.8	41.0	
=====							
S/BX = -0.67024							
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)	
74	4.50	75.0	0.001649	663.6	101.4	38.6	
75	4.00	66.7	0.001759	708.2	99.0	37.2	
76	3.50	58.3	0.001649	664.0	101.4	38.6	
78	2.50	41.7	0.001764	710.3	98.9	37.1	
80	1.50	25.0	0.001751	705.0	99.1	37.3	
=====							
S/BX = -0.98565							
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)	
84	4.50	75.0	0.002258	908.9	90.7	32.6	
85	4.00	66.7	0.003452	1389.7	80.4	26.9	
86	3.50	58.3	0.002683	1080.2	86.0	30.0	
87	3.00	50.0	0.002762	1112.0	85.3	29.6	
88	2.50	41.7	0.002409	969.9	88.8	31.6	
89	2.00	33.3	0.002908	1170.5	84.1	28.9	
90	1.50	25.0	0.002698	1086.2	85.9	29.9	

ORIGINAL PAGE IS
OF POOR QUALITY

ROTOR(SUCTION) CX/U=.960 GRID OUT 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 60 POINT: 4

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	RX
ENGLISH	39.9	176.6	0.0771	0.01430	0.2630	6.341
SI	4.4	53.8	1.2355	0.02473	2.9848	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	10.00	1.577	0.002484	1080.5	72.1	22.3
2	9.50	1.498	0.002518	1095.2	71.7	22.1
3	9.00	1.419	0.002373	1031.9	73.7	23.1
4	8.50	1.340	0.002335	1015.6	74.3	23.5
8	8.00	1.262	0.002565	1115.8	71.3	21.9
13	7.00	1.104	0.002205	958.9	76.3	24.6
14	6.50	1.025	0.002507	1090.5	72.0	22.2
15	6.00	0.946	0.002204	958.6	76.3	24.6
20	5.00	0.789	0.002799	1217.3	68.7	20.4
25	4.00	0.631	0.002830	1230.8	68.4	20.2
27	3.00	0.473	0.003187	1386.3	65.3	18.5
28	2.50	0.394	0.003350	1457.2	64.0	17.8
32	2.00	0.315	0.003998	1739.1	60.2	15.6
38	0.50	0.079	0.004191	1822.7	59.2	15.1
40	0.40	0.063	0.004145	1802.6	59.4	15.2
41	0.35	0.055	0.004531	1970.6	57.8	14.3
43	0.25	0.039	0.005038	2191.1	56.0	13.4
44	0.20	0.032	0.003934	1711.0	60.5	15.8
48	0.00	0.000	0.003741	1627.3	61.5	16.4
49	-0.05	-0.008	0.004265	1854.8	58.9	14.9
50	-0.10	-0.016	0.003373	1466.9	63.8	17.7
52	-0.20	-0.032	0.003587	1560.2	62.4	16.9
53	-0.25	-0.039	0.003522	1531.8	62.8	17.1
54	-0.30	-0.047	0.002976	1294.5	66.9	19.4
56	-0.40	-0.063	0.002387	1038.3	73.4	23.0
58	-0.50	-0.079	0.002154	936.9	76.9	24.9

ROTOR(SUCTION) CX/U=.960 GRID OUT 65% SPACING

SPANWISE HEAT TRANSFER RUN: 60 POINT: 4

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	39.9	176.6	0.0771	0.01430	0.2630	6.341
SI	4.4	53.8	1.2355	0.02473	2.9848	16.106

FOR UNITS SEE NOMENCLATURE

=====

S/BX = 0.31541

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
29	4.50	75.0	0.004949	2152.3	56.3	13.5
30	4.00	66.7	0.005625	2446.3	54.4	12.4
31	3.50	58.3	0.004072	1770.8	59.8	15.4
32	3.00	50.0	0.003998	1739.1	60.2	15.6
33	2.50	41.7	0.003885	1689.8	60.7	16.0
34	2.00	33.3	0.003859	1678.3	60.9	16.0

=====

S/BX = 0.78852

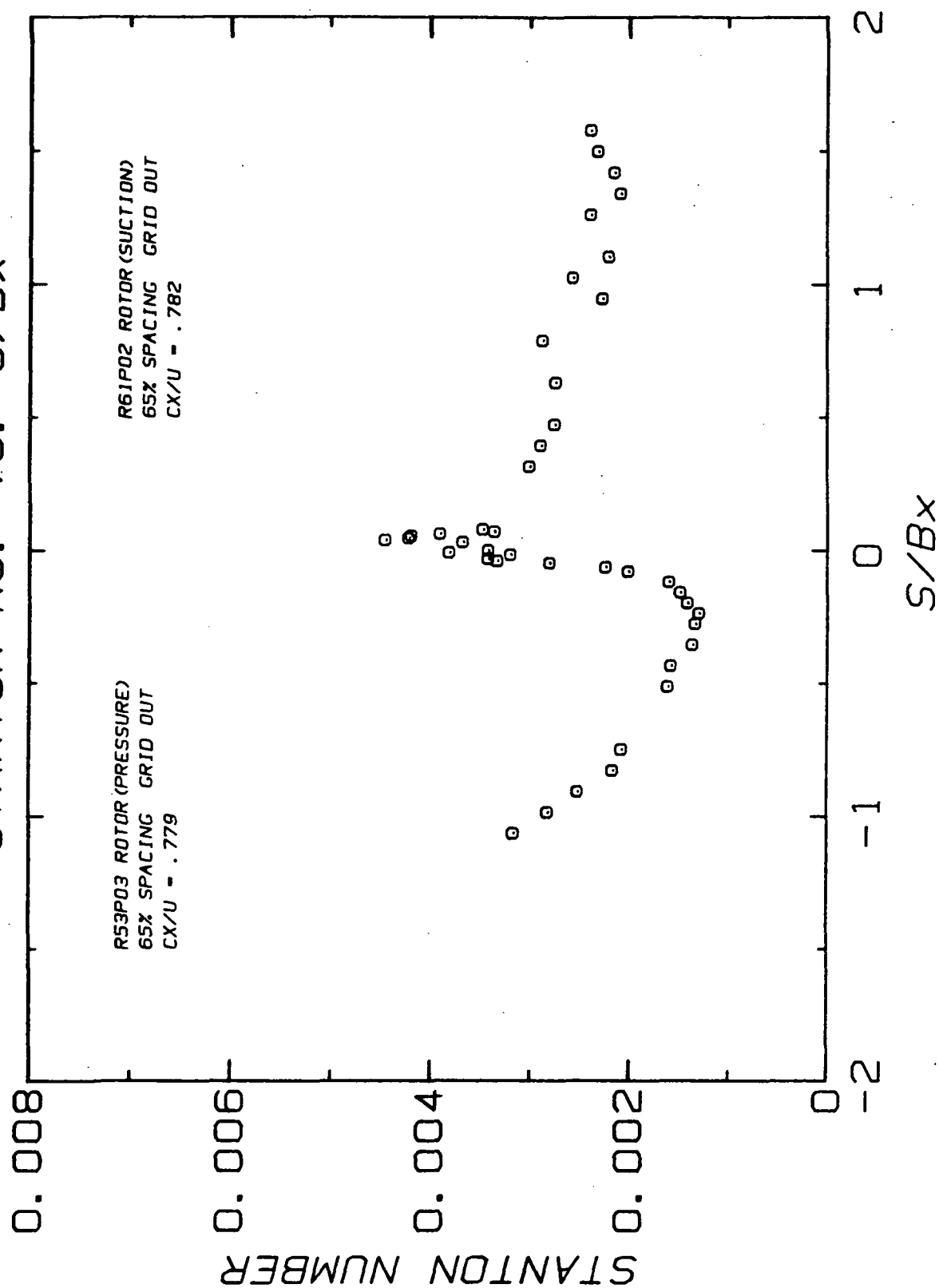
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
17	4.50	75.0	0.003979	1730.8	60.3	15.7
18	4.00	66.7	0.002931	1274.8	67.4	19.7
19	3.50	58.3	0.002693	1171.1	69.8	21.0
20	3.00	50.0	0.002799	1217.3	68.7	20.4
21	2.50	41.7	0.002696	1172.4	69.8	21.0
22	2.00	33.3	0.003047	1325.1	66.4	19.1
23	1.50	25.0	0.003855	1676.8	60.9	16.1

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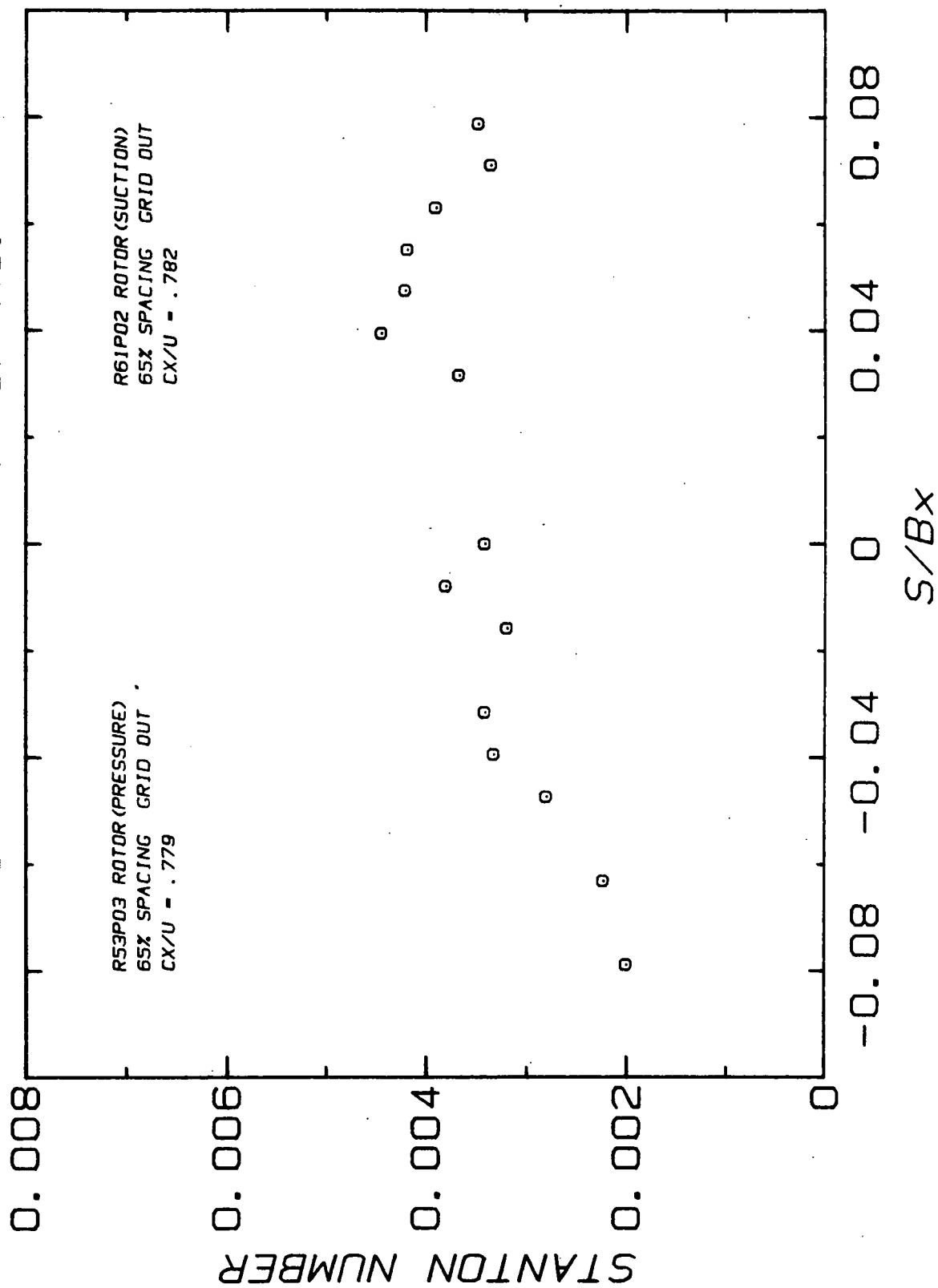
S/BX = 1.26163

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
5	4.50	75.0	0.004241	1844.3	59.2	15.1
6	4.00	66.7	0.004041	1757.4	60.1	15.6
7	3.50	58.3	0.002480	1078.6	72.4	22.4
8	3.00	50.0	0.002565	1115.8	71.3	21.9
9	2.50	41.7	0.002220	965.4	76.0	24.5
10	2.00	33.3	0.003523	1532.1	63.0	17.2
11	1.50	25.0	0.004474	1945.7	58.2	14.5

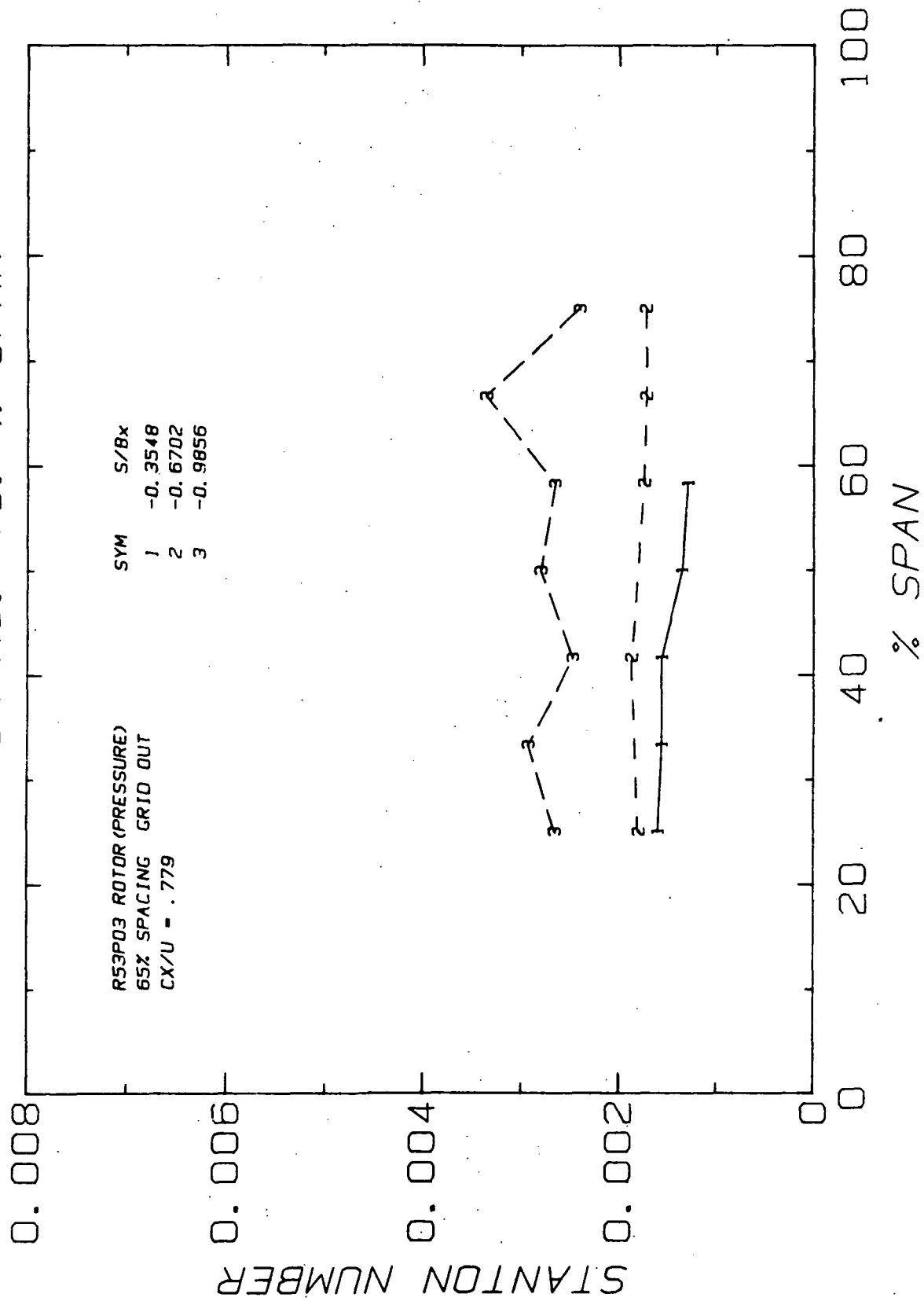
STANTON NO. VS. S/Bx



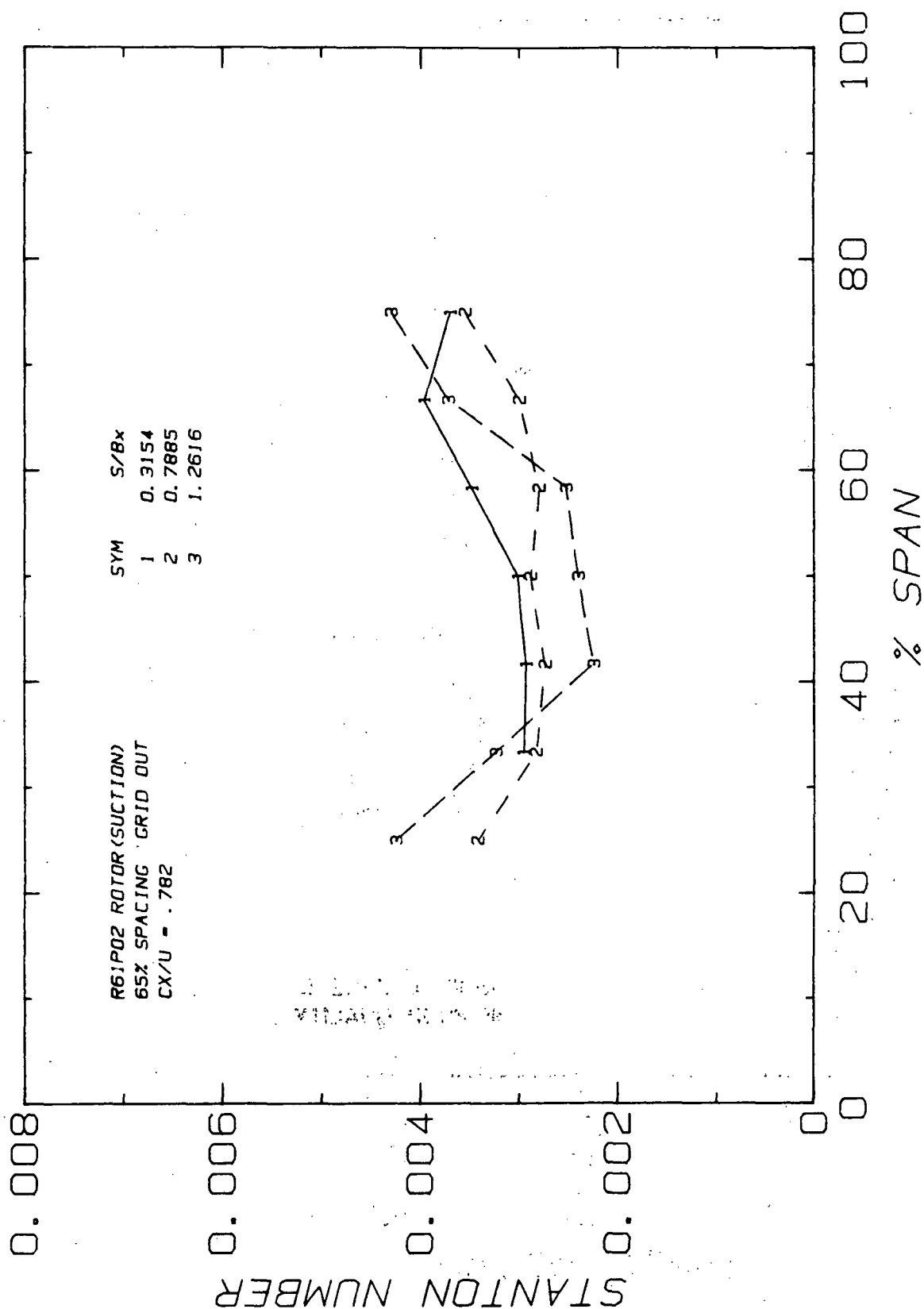
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



ROTOR(PRESSURE) CX/U=.779 GRID OUT 65X SPACING

MIDSPAN HEAT TRANSFER

RUN: 53 POINT: 3

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	52.6	175.0	0.0750	0.01464	0.2080	6.341
SI	11.4	53.3	1.2012	0.02532	2.3606	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
39	0.45	0.071	0.003341	1367.0	72.4	22.4
42	0.30	0.047	0.004202	1719.2	68.4	20.2
59	-0.75	-0.118	0.001583	647.8	93.2	34.0
60	-1.00	-0.158	0.001469	601.3	96.2	35.7
61	-1.25	-0.197	0.001401	573.1	98.2	36.8
62	-1.50	-0.237	0.001284	525.3	102.2	39.0
63	-1.75	-0.276	0.001323	541.3	100.8	38.2
67	-2.25	-0.355	0.001349	552.1	100.0	37.8
71	-2.75	-0.434	0.001568	641.7	93.7	34.3
72	-3.25	-0.513	0.001599	654.2	93.0	33.9
81	-4.75	-0.749	0.002060	842.8	84.3	29.0
82	-5.25	-0.828	0.002148	878.9	83.1	28.4
83	-5.75	-0.907	0.002502	1023.6	78.9	26.1
87	-6.25	-0.986	0.002803	1147.0	76.2	24.6
91	-6.75	-1.065	0.003150	1288.8	73.8	23.2

ORIGINAL PAGE IS
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ROTOR(PRESSURE) CX/U=.779 GRID OUT 65X SPACING

SPANWISE HEAT TRANSFER RUN: 53 POINT: 3

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	52.4	175.0	0.0750	0.01464	0.2080	6.341
SI	11.4	53.3	1.2012	0.02532	2.3606	16.106

FOR UNITS SEE NOMENCLATURE

=====

S/BX = -0.35483

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
66	3.50	58.3	0.001294	529.6	101.8	38.8
67	3.00	50.0	0.001349	552.1	100.0	37.8
68	2.50	41.7	0.001556	636.6	94.0	34.5
69	2.00	33.3	0.001557	637.1	94.0	34.4
70	1.50	25.0	0.001598	653.7	93.0	33.9

=====

S/BX = -0.67024

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
74	4.50	75.0	0.001719	703.3	90.2	32.4
75	4.00	66.7	0.001717	702.5	90.3	32.4
76	3.50	58.3	0.001741	712.4	89.8	32.1
78	2.50	41.7	0.001867	764.1	87.4	30.8
80	1.50	25.0	0.001793	733.5	88.8	31.5

=====

S/BX = -0.98565

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
84	4.50	75.0	0.002399	981.4	80.0	26.7
85	4.00	66.7	0.003357	1373.7	72.5	22.5
86	3.50	58.3	0.002660	1088.6	77.4	25.2
87	3.00	50.0	0.002803	1147.0	76.2	24.6
88	2.50	41.7	0.002468	1009.9	79.3	26.3
89	2.00	33.3	0.002925	1196.9	75.3	24.0
90	1.50	25.0	0.002658	1087.5	77.5	25.3

ORIGINAL PAGE IS
OF POOR QUALITY

ROTOR(SUCTION) CX/U=.782 GRID OUT 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 61 POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	40.1	176.4	0.0768	0.01431	0.2610	6.341
SI	4.5	53.8	1.2308	0.02475	2.9621	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	10.00	1.577	0.002387	1032.3	73.5	23.1
2	9.50	1.498	0.002319	1002.8	74.5	23.6
3	9.00	1.419	0.002155	932.1	77.1	25.0
4	8.50	1.340	0.002089	903.4	78.4	25.8
8	8.00	1.262	0.002390	1033.8	73.7	23.2
13	7.00	1.104	0.002208	954.9	76.4	24.7
14	6.50	1.025	0.002572	1112.4	71.4	21.9
15	6.00	0.946	0.002271	982.2	75.4	24.1
20	5.00	0.789	0.002877	1244.3	68.2	20.1
25	4.00	0.631	0.002746	1187.7	69.4	20.8
27	3.00	0.473	0.002754	1191.2	69.4	20.8
28	2.50	0.394	0.002892	1250.6	68.0	20.0
32	2.00	0.315	0.003004	1299.2	66.9	19.4
38	0.50	0.079	0.003472	1501.8	63.4	17.4
40	0.40	0.063	0.003903	1688.0	60.9	16.0
41	0.35	0.055	0.004190	1812.0	59.5	15.3
43	0.25	0.039	0.004449	1924.3	58.4	14.6
44	0.20	0.032	0.003669	1586.9	62.1	16.7
48	0.00	0.000	0.003413	1476.2	63.8	17.6
49	-0.05	-0.008	0.003806	1646.2	61.4	16.3
50	-0.10	-0.016	0.003190	1379.7	65.4	18.5
52	-0.20	-0.032	0.003416	1477.6	63.7	17.6
53	-0.25	-0.039	0.003323	1437.2	64.4	18.0
54	-0.30	-0.047	0.002800	1210.9	68.8	20.4
56	-0.40	-0.063	0.002231	965.0	75.8	24.3
58	-0.50	-0.079	0.002004	866.7	79.7	26.5

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ROTOR(SUCTION)

CX/U=.782

GRID OUT

65% SPACING

SPANWISE HEAT TRANSFER

RUN: 61

POINT: 2

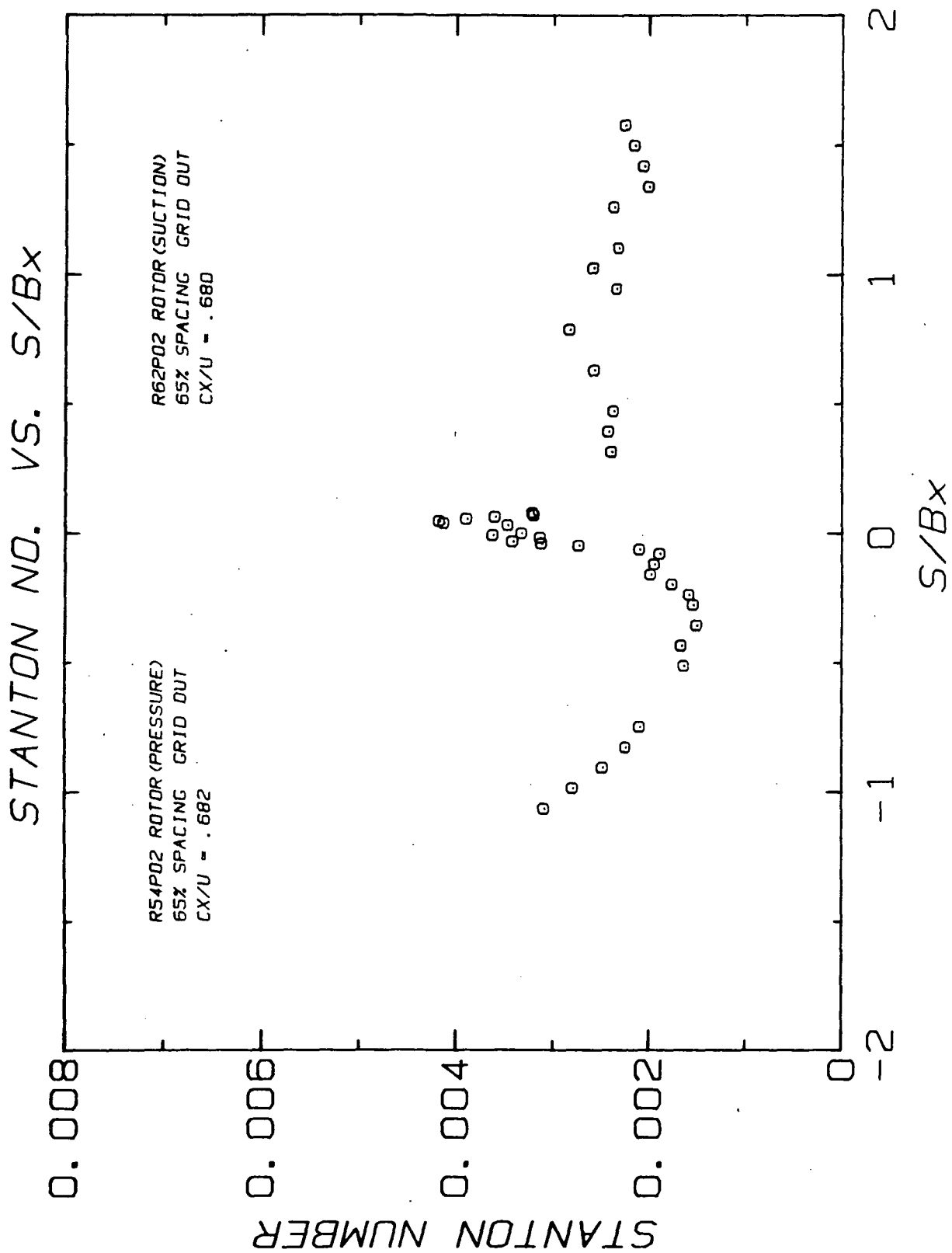
SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	40.1	176.4	0.0768	0.01431	0.2610	6.341
SI	4.5	53.8	1.2308	0.02475	2.9621	16.106

FOR UNITS SEE NOMENCLATURE.

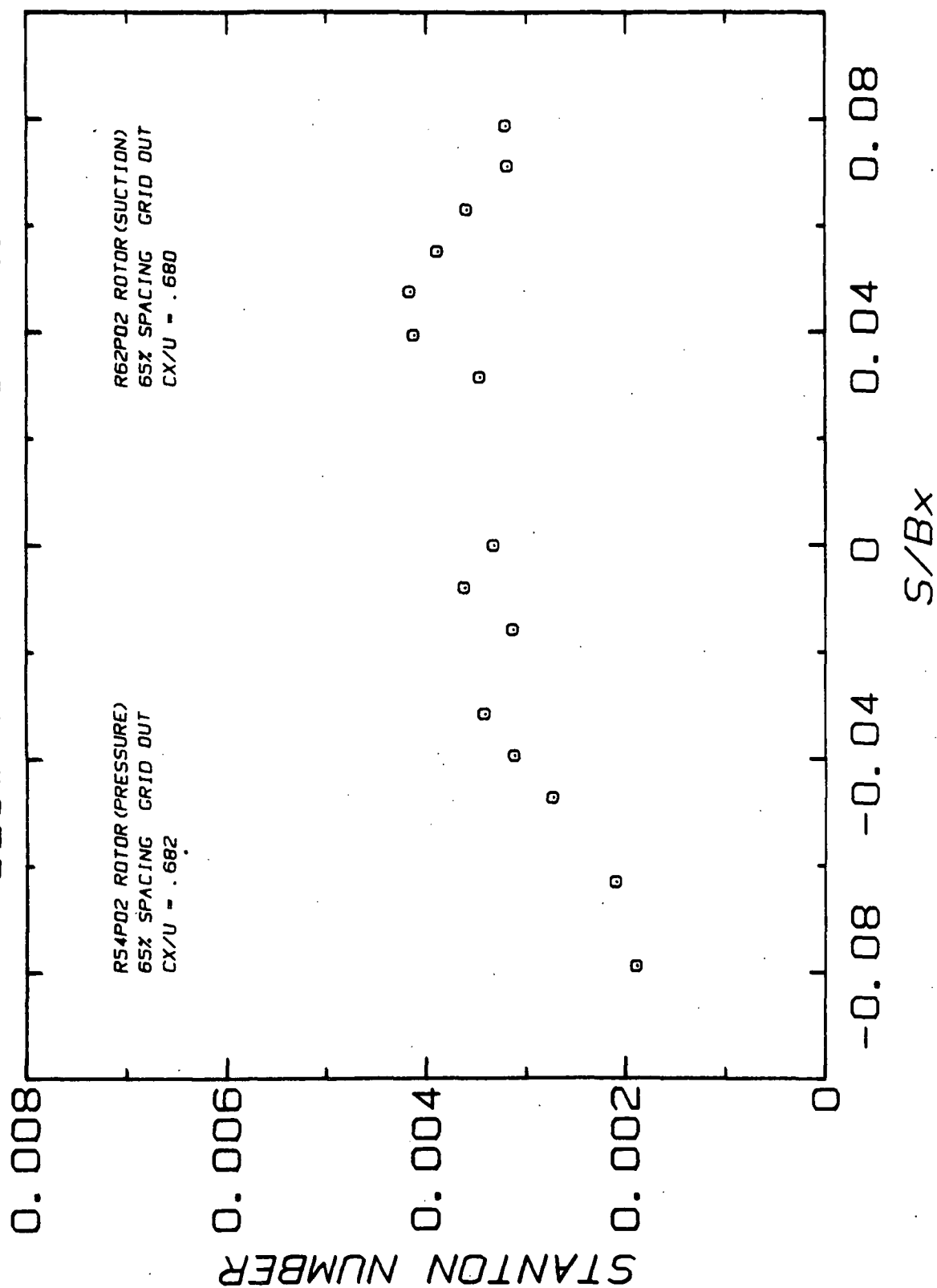
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S/BX = 0.31541						
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
29	4.50	75.0	0.003692	1596.7	62.0	16.7
30	4.00	66.7	0.003956	1710.8	60.6	15.9
31	3.50	58.3	0.003471	1501.2	63.4	17.4
32	3.00	50.0	0.003004	1299.2	66.9	19.4
33	2.50	41.7	0.002922	1263.9	67.7	19.8
34	2.00	33.3	0.002949	1275.6	67.4	19.7

=====						
S/BX = 0.78852						
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
17	4.50	75.0	0.003545	1533.2	63.0	17.2
18	4.00	66.7	0.002988	1292.4	67.1	19.5
19	3.50	58.3	0.002788	1205.8	69.0	20.6
20	3.00	50.0	0.002877	1244.3	68.2	20.1
21	2.50	41.7	0.002731	1180.9	69.6	20.9
22	2.00	33.3	0.002822	1220.7	68.7	20.4
23	1.50	25.0	0.003420	1479.1	63.8	17.7

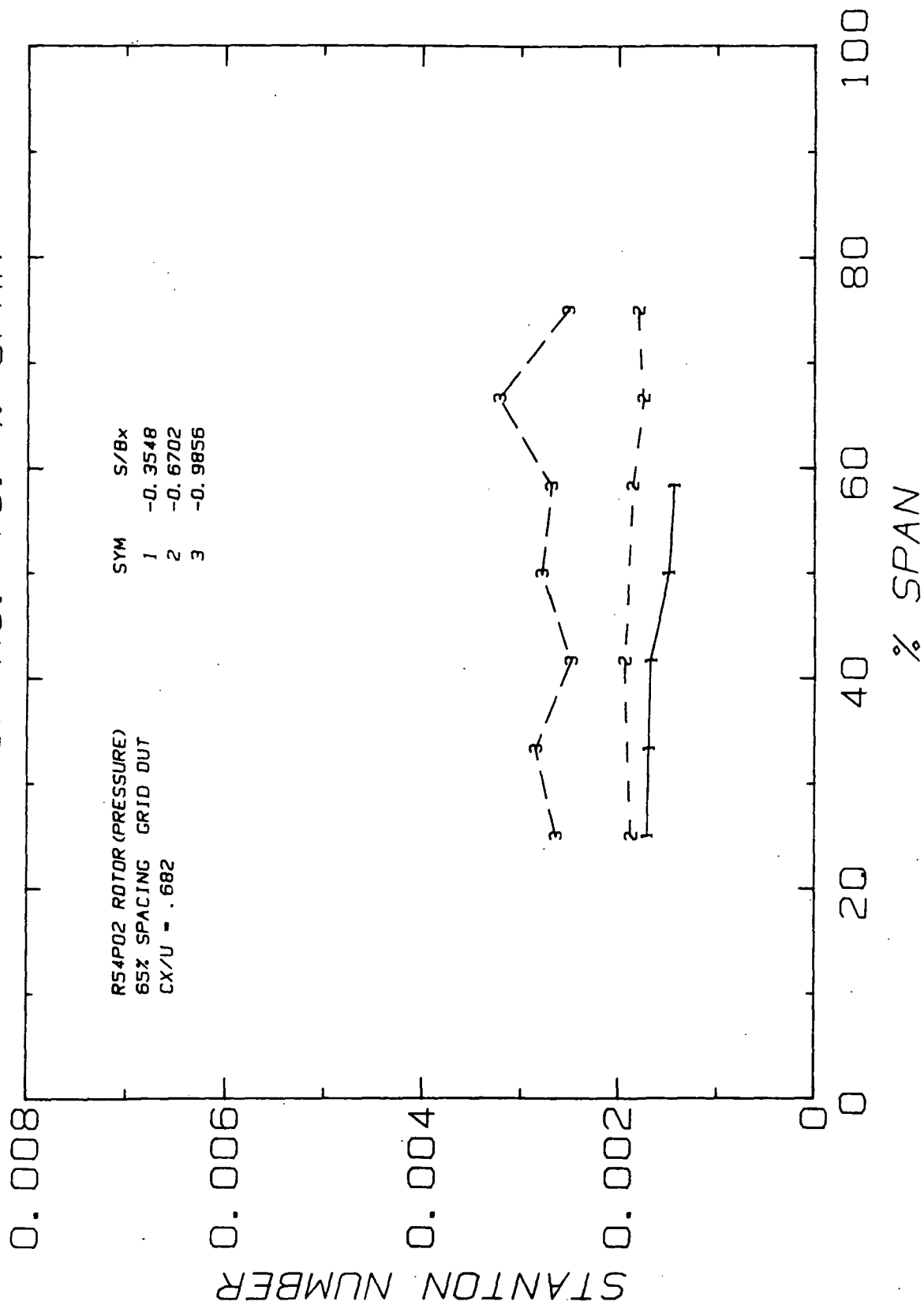
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S/BX = 1.26163						
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
5	4.50	75.0	0.004292	1856.4	59.1	15.1
6	4.00	66.7	0.003706	1602.7	62.1	16.7
7	3.50	58.3	0.002511	1086.0	72.2	22.3
8	3.00	50.0	0.002390	1033.8	73.7	23.2
9	2.50	41.7	0.002238	967.9	75.9	24.4
10	2.00	33.3	0.003234	1398.6	65.2	18.4
11	1.50	25.0	0.004243	1835.3	59.4	15.2



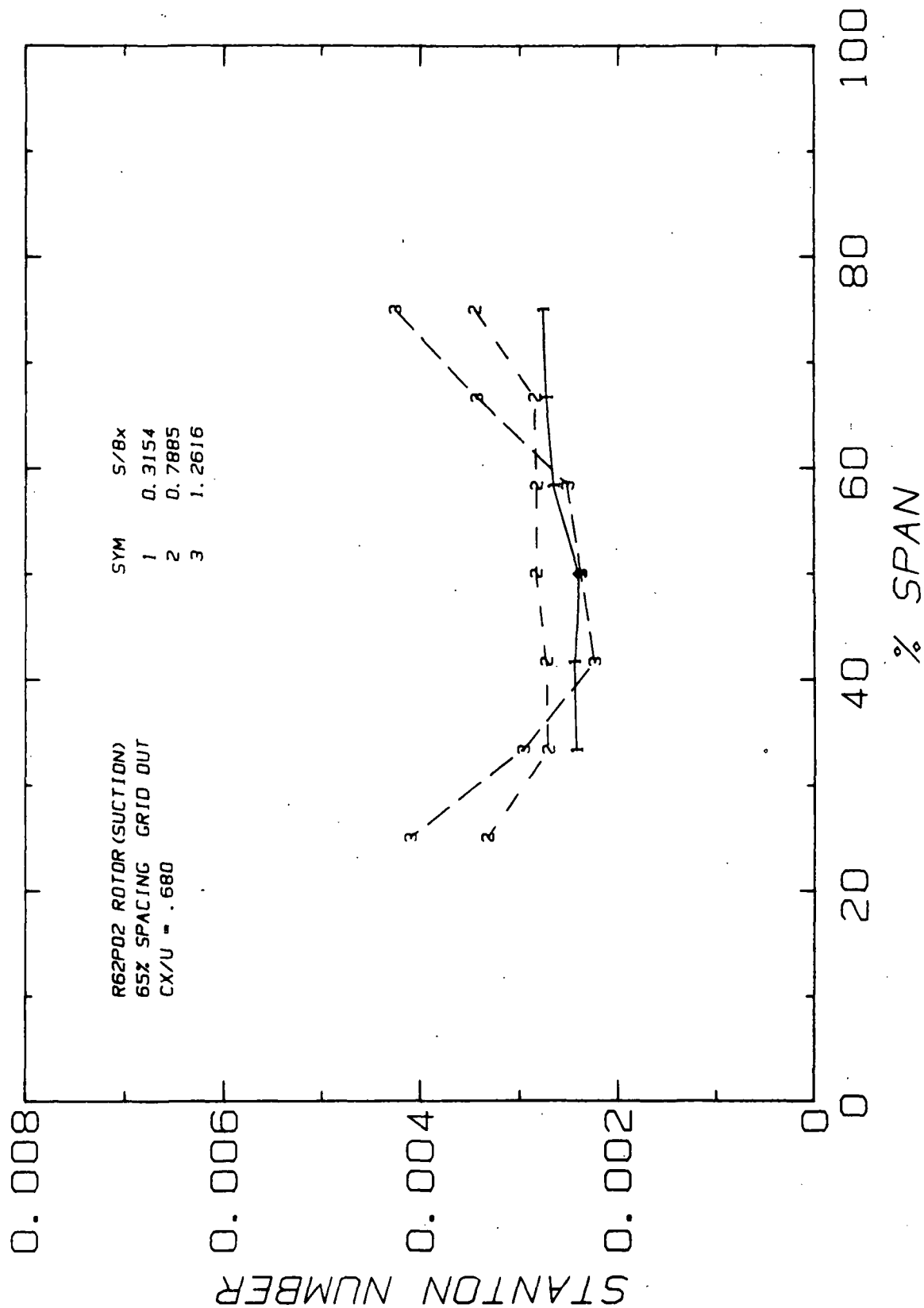
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



ROTOR(PRESSURE) CX/U=.682 GRID OUT 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 54 POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	53.2	176.2	0.0747	0.01465	0.2480	6.341
SI	11.8	53.7	1.1962	0.02534	2.8146	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
39	0.45	0.071	0.003184	1305.6	77.9	25.5
42	0.30	0.047	0.004158	1705.1	72.3	22.4
59	-0.75	-0.118	0.001929	791.1	93.3	34.1
60	-1.00	-0.158	0.001969	807.3	92.6	33.7
61	-1.25	-0.197	0.001749	717.3	97.3	36.3
62	-1.50	-0.237	0.001567	642.7	102.3	39.0
63	-1.75	-0.276	0.001529	626.9	103.4	39.7
67	-2.25	-0.355	0.001488	610.3	104.8	40.4
71	-2.75	-0.434	0.001651	676.8	99.9	37.7
72	-3.25	-0.513	0.001620	664.1	100.8	38.2
81	-4.75	-0.749	0.002080	852.8	90.6	32.6
82	-5.25	-0.828	0.002234	915.9	88.1	31.2
83	-5.75	-0.907	0.002473	1014.2	84.9	29.4
87	-6.25	-0.984	0.002782	1140.8	81.5	27.5
91	-6.75	-1.065	0.003079	1262.6	78.9	26.1

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ROTOR(PRESSURE) CX/U=.682 GRID OUT 65% SPACING

SPANWISE HEAT TRANSFER RUN# 54 POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	53.2	176.2	0.0747	0.01465	0.2480	6.341
SI	11.8	53.7	1.1962	0.02534	2.8146	16.106

FOR UNITS SEE NOMENCLATURE

S/BX = -0.35483						
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
66	3.50	58.3	0.001435	588.6	106.5	41.4
67	3.00	50.0	0.001488	610.3	104.8	40.4
68	2.50	41.7	0.001674	686.5	99.3	37.4
69	2.00	33.3	0.001690	693.0	98.9	37.2
70	1.50	25.0	0.001708	700.4	98.4	36.9

S/BX = -0.67024						
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
74	4.50	75.0	0.001800	738.0	96.2	35.6
75	4.00	66.7	0.001743	714.9	97.5	36.4
76	3.50	58.3	0.001856	761.1	94.9	35.0
78	2.50	41.7	0.001940	795.7	93.2	34.0
80	1.50	25.0	0.001869	766.6	94.6	34.8

S/BX = -0.98565						
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
84	4.50	75.0	0.002526	1035.7	84.3	29.0
85	4.00	66.7	0.003220	1320.4	77.8	25.4
86	3.50	58.3	0.002689	1102.5	82.5	28.0
87	3.00	50.0	0.002782	1140.8	81.5	27.5
88	2.50	41.7	0.002494	1022.6	84.7	29.3
89	2.00	33.3	0.002847	1167.3	80.9	27.2
90	1.50	25.0	0.002643	1083.7	83.0	28.3

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ROTOR(SUCTION) CX/U=.680 GRID OUT 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 62 POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	42.0	175.4	0.0764	0.01436	0.2620	6.341
SI	5.5	53.5	1.2244	0.02484	2.9734	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	10.00	1.577	0.002242	955.9	77.8	25.5
2	9.50	1.498	0.002147	915.3	79.4	26.4
3	9.00	1.419	0.002047	872.8	81.3	27.4
4	8.50	1.340	0.001999	852.2	82.4	28.0
8	8.00	1.262	0.002370	1010.4	76.3	24.6
13	7.00	1.104	0.002319	988.5	77.1	25.0
14	6.50	1.025	0.002585	1102.1	73.6	23.1
15	6.00	0.946	0.002337	996.4	76.8	24.9
20	5.00	0.789	0.002827	1205.1	70.9	21.6
25	4.00	0.631	0.002571	1096.2	73.7	23.2
27	3.00	0.473	0.002369	1010.0	76.3	24.6
28	2.50	0.394	0.002428	1035.2	75.5	24.2
32	2.00	0.315	0.002393	1020.2	75.9	24.4
38	0.50	0.079	0.003207	1367.1	67.4	19.7
40	0.40	0.063	0.003593	1531.8	64.8	18.2
41	0.35	0.055	0.003886	1656.6	63.1	17.3
43	0.25	0.039	0.004120	1756.2	61.9	16.6
44	0.20	0.032	0.003459	1474.7	65.6	18.7
48	0.00	0.000	0.003320	1415.4	66.6	19.2
49	-0.05	-0.008	0.003618	1542.5	64.6	18.1
50	-0.10	-0.016	0.003129	1334.0	68.1	20.0
52	-0.20	-0.032	0.003414	1455.4	65.9	18.9
53	-0.25	-0.039	0.003115	1328.0	68.2	20.1
54	-0.30	-0.047	0.002730	1163.8	71.8	22.1
56	-0.40	-0.063	0.002090	890.8	80.5	26.9
58	-0.50	-0.079	0.001881	801.9	84.6	29.2

ROTOR(SUCTION)

CX/U=.680

GRID OUT

65% SPACING

SPANWISE HEAT TRANSFER

RUN: 62

POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	EX
ENGLISH	42.0	175.4	0.0764	0.01436	0.2620	6.341
SI	5.5	53.5	1.2244	0.02484	2.9734	16.106

FOR UNITS SEE NOMENCLATURE

=====

S/BX = 0.31541

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
29	4.50	75.0	0.002761	1177.2	71.5	21.9
30	4.00	66.7	0.002724	1161.4	71.9	22.2
31	3.50	58.3	0.002649	1129.5	72.7	22.6
32	3.00	50.0	0.002393	1020.2	75.9	24.4
33	2.50	41.7	0.002439	1039.7	75.3	24.1
34	2.00	33.3	0.002418	1031.0	75.6	24.2

=====

S/BX = 0.78852

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
17	4.50	75.0	0.003454	1472.7	65.7	18.7
18	4.00	66.7	0.002848	1214.2	70.7	21.5
19	3.50	58.3	0.002826	1204.8	70.9	21.6
20	3.00	50.0	0.002827	1205.1	70.9	21.6
21	2.50	41.7	0.002723	1160.7	72.0	22.2
22	2.00	33.3	0.002707	1153.9	72.2	22.3
23	1.50	25.0	0.003324	1417.1	66.7	19.3

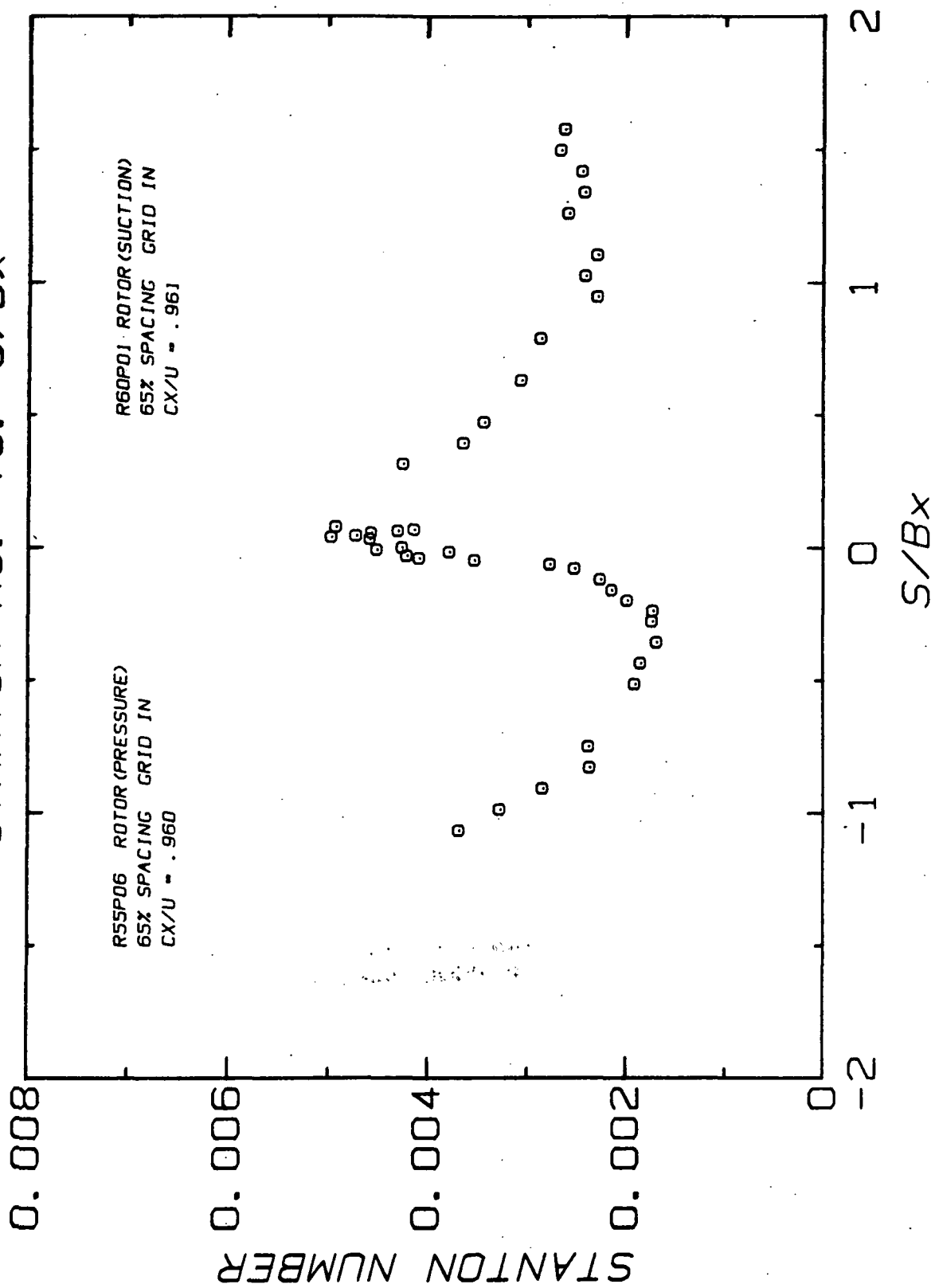
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S/BX = 1.26163

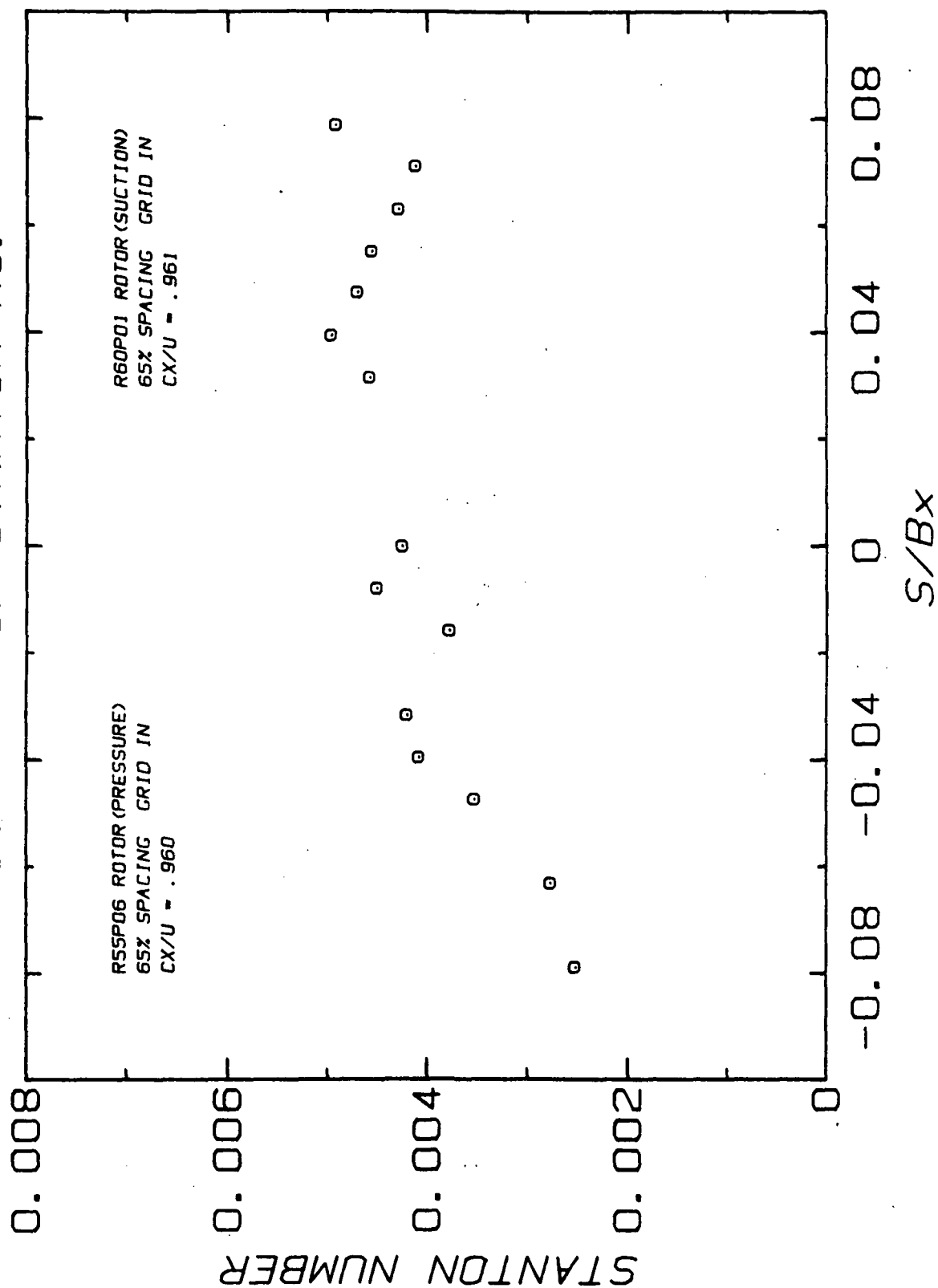
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
5	4.50	75.0	0.004257	1814.7	61.4	16.3
6	4.00	66.7	0.003430	1462.2	66.0	18.9
7	3.50	58.3	0.002508	1069.1	74.5	23.6
8	3.00	50.0	0.002370	1010.4	76.3	24.6
9	2.50	41.7	0.002235	952.8	78.3	25.7
10	2.00	33.3	0.002964	1263.6	69.7	20.9
11	1.50	25.0	0.004098	1747.1	62.2	16.8

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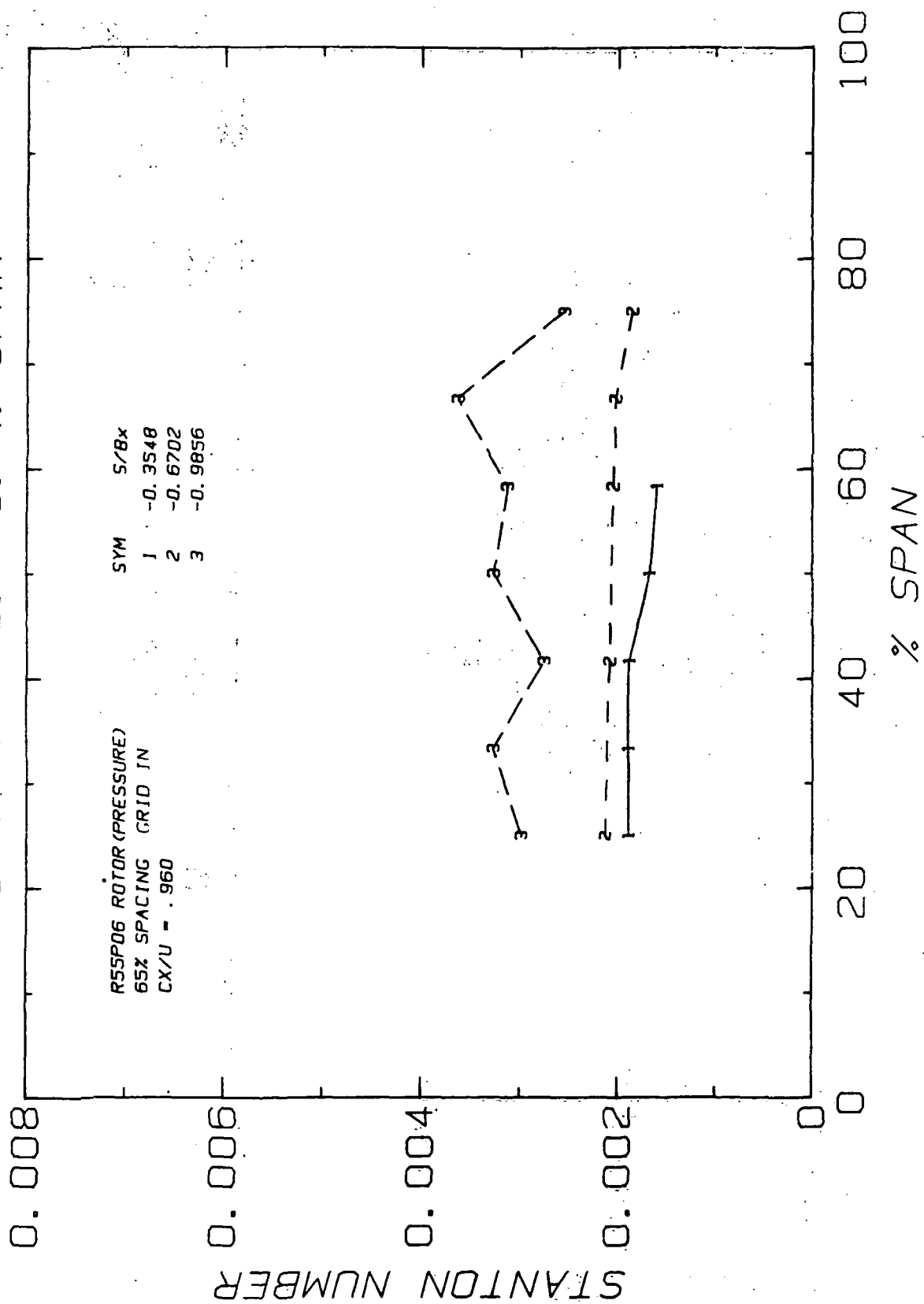
STANTON NO. VS. S/Bx



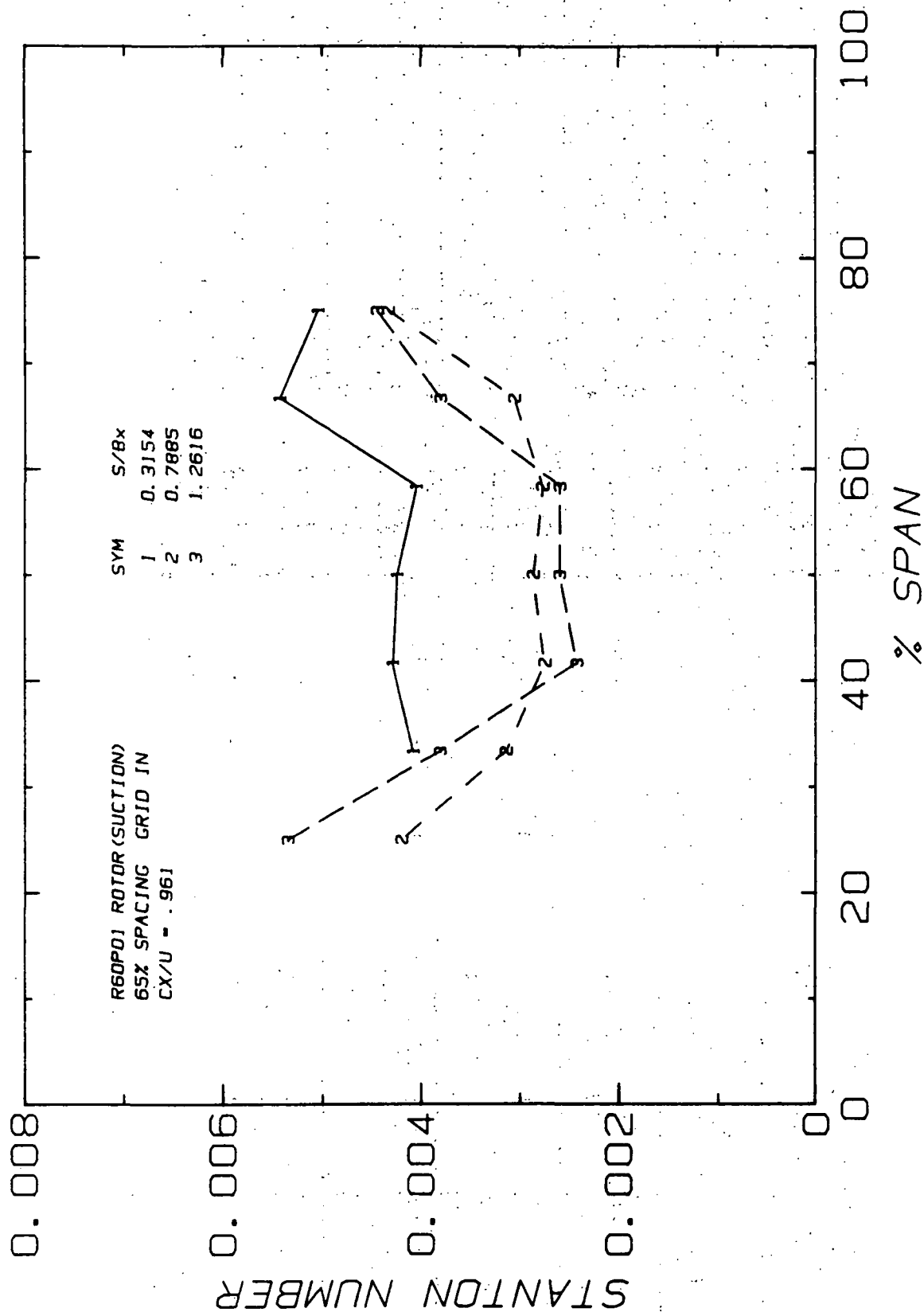
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



ROTOR(PRESSURE) CX/U=.960 GRID IN 65X SPACING

MIDSPAN HEAT TRANSFER

RUN: 55 POINT: 6

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	58.0	176.0	0.0737	0.01477	0.2570	6.341
SI	14.5	53.7	1.1800	0.02555	2.9167	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
39	0.45	0.071	0.004108	1646.7	78.2	25.7
42	0.30	0.047	0.004698	1883.5	75.7	24.3
59	-0.75	-0.118	0.002247	900.7	94.3	34.6
60	-1.00	-0.158	0.002124	851.6	96.3	35.7
61	-1.25	-0.197	0.001968	788.9	99.3	37.4
62	-1.50	-0.237	0.001710	685.5	105.3	40.7
63	-1.75	-0.276	0.001714	687.2	105.2	40.7
67	-2.25	-0.355	0.001670	669.3	106.4	41.3
71	-2.75	-0.434	0.001833	734.9	102.3	39.0
72	-3.25	-0.513	0.001892	758.6	100.9	38.3
81	-4.75	-0.749	0.002367	949.0	92.6	33.7
82	-5.25	-0.828	0.002354	943.8	92.7	33.7
83	-5.75	-0.907	0.002828	1133.5	87.1	30.6
87	-6.25	-0.986	0.003260	1306.8	83.4	28.6
91	-6.75	-1.065	0.003670	1471.2	80.7	27.0

ROTOR(PRESSURE) CX/U=.960 GRID IN 65X SPACING

SPANWISE HEAT TRANSFER RUN: 55 POINT: 6

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	58.0	176.0	0.0737	0.01477	0.2570	6.341
SI	14.5	53.7	1.1800	0.02555	2.9167	16.106

FOR UNITS, SEE NOMENCLATURE

S/BX = -0.35483

TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
46	3.50	58.3	0.001595	639.4	108.5	42.5
67	3.00	50.0	0.001670	669.3	106.4	41.3
68	2.50	41.7	0.001885	755.7	101.1	38.4
69	2.00	33.3	0.001886	755.9	101.1	38.4
70	1.50	25.0	0.001886	756.2	101.1	38.4

S/BX = -0.67024

TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
74	4.50	75.0	0.001850	741.6	101.8	38.8
75	4.00	66.7	0.002022	810.4	98.2	36.8
76	3.50	58.3	0.002045	819.7	97.8	36.6
78	2.50	41.7	0.002081	834.4	97.1	36.2
80	1.50	25.0	0.002128	853.2	96.3	35.7

S/BX = -0.98565

TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
84	4.50	75.0	0.002546	1020.5	90.2	32.3
85	4.00	66.7	0.003629	1454.7	80.9	27.2
86	3.50	58.3	0.003122	1251.7	84.5	29.2
87	3.00	50.0	0.003260	1306.8	83.4	28.6
88	2.50	41.7	0.002754	1104.0	87.9	31.0
89	2.00	33.3	0.003266	1309.5	83.3	28.5
90	1.50	25.0	0.002984	1196.0	85.7	29.8

ROTOR(SUCTION) CX/U=.961 GRID IN 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 60 POINT: 1

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	RX
ENGLISH	57.9	176.0	0.0739	0.01477	0.2780	6.341
SI	14.4	53.6	1.1845	0.02555	3.1550	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/RX	ST	NU	TWALL (F)	TWALL (C)
1	10.00	1.577	0.002623	1055.4	91.2	32.9
2	9.50	1.498	0.002664	1072.0	90.8	32.7
3	9.00	1.419	0.002448	984.9	93.7	34.3
4	8.50	1.340	0.002423	974.7	94.2	34.6
8	8.00	1.262	0.002588	1041.4	92.1	33.4
13	7.00	1.104	0.002299	924.8	96.3	35.7
14	6.50	1.025	0.002413	970.9	94.6	34.8
15	6.00	0.946	0.002291	921.9	96.5	35.8
20	5.00	0.789	0.002858	1149.9	89.0	31.7
25	4.00	0.631	0.003056	1229.3	87.1	30.6
27	3.00	0.473	0.003426	1378.3	84.0	28.9
28	2.50	0.394	0.003634	1461.9	82.5	28.1
32	2.00	0.315	0.004239	1705.4	79.0	26.1
38	0.50	0.079	0.004912	1976.4	76.1	24.5
40	0.40	0.063	0.004286	1724.2	78.7	25.9
41	0.35	0.055	0.004556	1833.2	77.5	25.3
43	0.25	0.039	0.004958	1994.9	75.9	24.4
44	0.20	0.032	0.004571	1839.1	77.4	25.2
48	0.00	0.000	0.004244	1707.4	78.9	26.1
49	-0.05	-0.008	0.004500	1810.4	77.7	25.4
50	-0.10	-0.016	0.003771	1517.2	81.5	27.5
52	-0.20	-0.032	0.004198	1689.0	79.1	26.2
53	-0.25	-0.039	0.004075	1639.6	79.8	26.5
54	-0.30	-0.047	0.003518	1415.5	83.1	28.4
56	-0.40	-0.063	0.002760	1110.6	89.8	32.1
58	-0.50	-0.079	0.002516	1012.2	92.8	33.8

ORIGINAL PAGE IS
OF POOR QUALITY

ROTOR(SUCTION) CX/U=.961 GRID IN 65X SPACING

SPANWISE HEAT TRANSFER RUN: 60 POINT: 1

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	57.9	176.0	0.0739	0.01477	0.2780	6.341
SI	14.4	53.6	1.1845	0.02555	3.1550	16.106

FOR UNITS SEE NOMENCLATURE

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S/BX = 0.31541

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
29	4.50	75.0	0.005036	2026.1	75.7	24.3
30	4.00	66.7	0.005425	2182.8	74.5	23.6
31	3.50	58.3	0.004039	1625.0	80.0	26.7
32	3.00	50.0	0.004239	1705.4	79.0	26.1
33	2.50	41.7	0.004286	1724.5	78.8	26.0
34	2.00	33.3	0.004076	1640.1	79.8	26.6

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S/BX = 0.78852

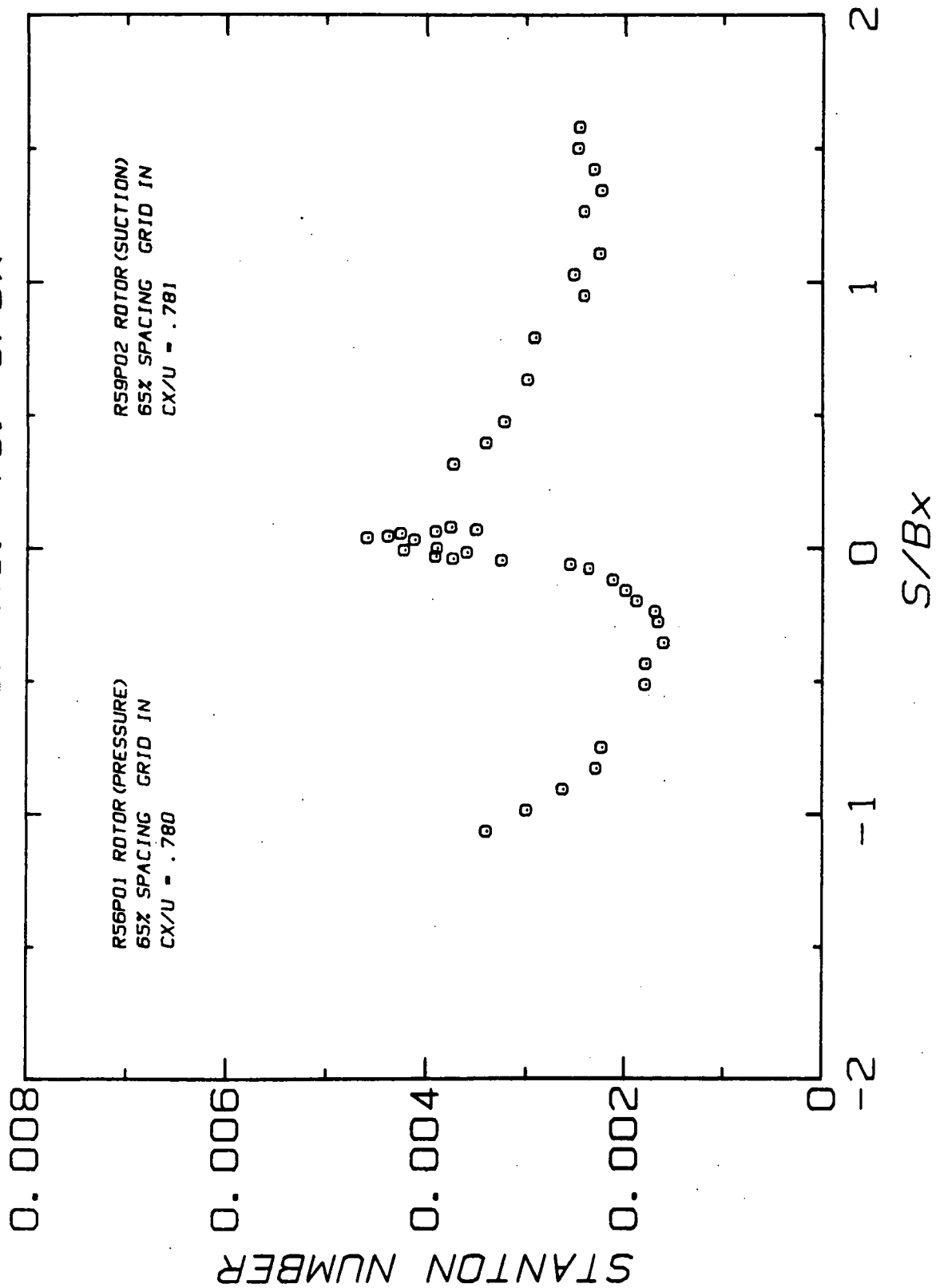
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
17	4.50	75.0	0.004329	1741.8	78.6	25.9
18	4.00	66.7	0.003049	1226.9	87.1	30.6
19	3.50	58.3	0.002760	1110.6	90.1	32.3
20	3.00	50.0	0.002858	1149.9	89.0	31.7
21	2.50	41.7	0.002743	1103.5	90.3	32.4
22	2.00	33.3	0.003137	1262.2	86.3	30.2
23	1.50	25.0	0.004199	1689.2	79.3	26.3

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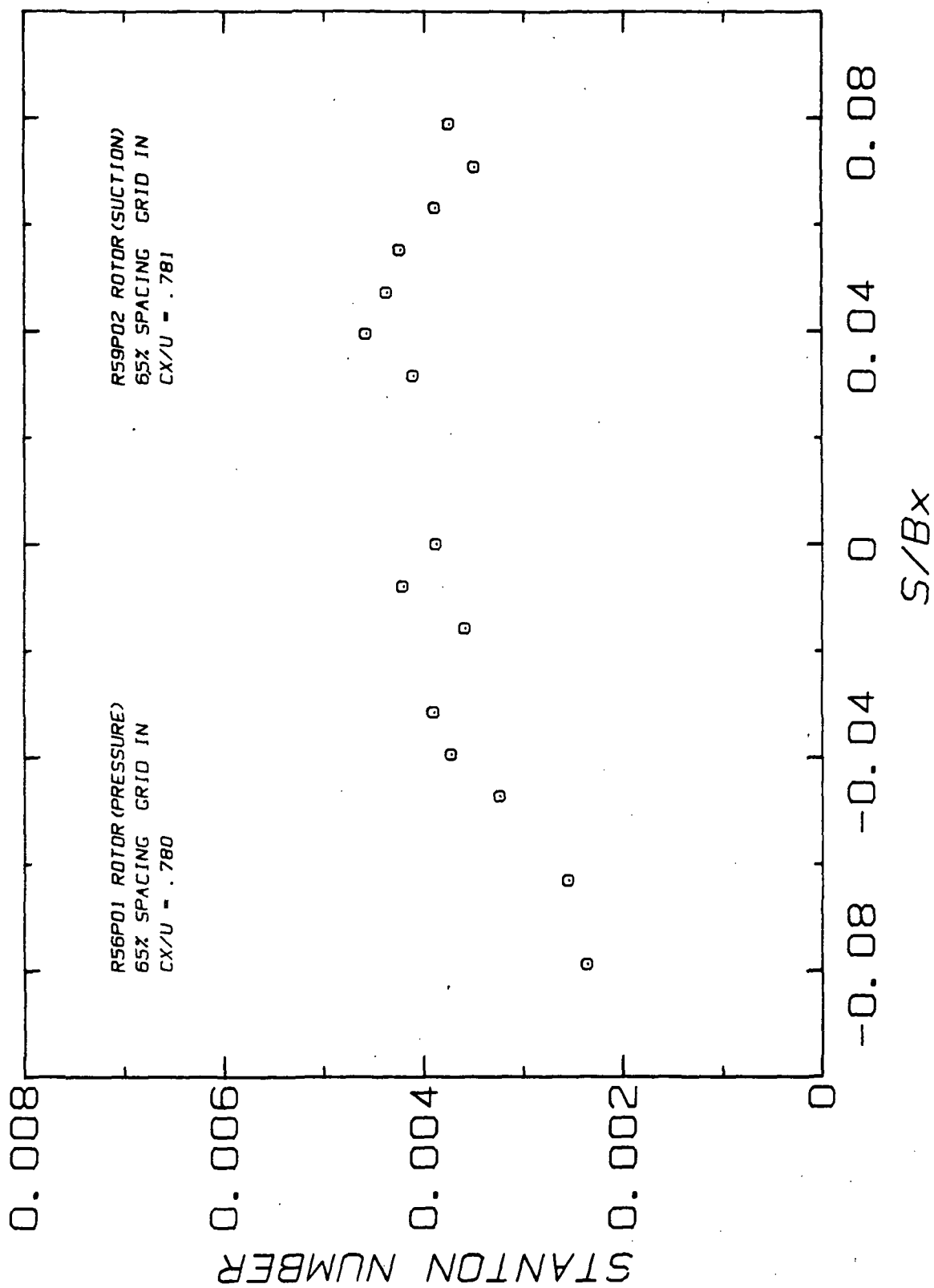
S/BX = 1.26163

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
5	4.50	75.0	0.004440	1786.4	78.1	25.6
6	4.00	66.7	0.003796	1527.1	81.5	27.5
7	3.50	58.3	0.002585	1040.2	92.1	33.4
8	3.00	50.0	0.002588	1041.4	92.1	33.4
9	2.50	41.7	0.002417	972.5	94.4	34.7
10	2.00	33.3	0.003804	1530.7	81.4	27.5
11	1.50	25.0	0.005348	2151.9	74.7	23.7

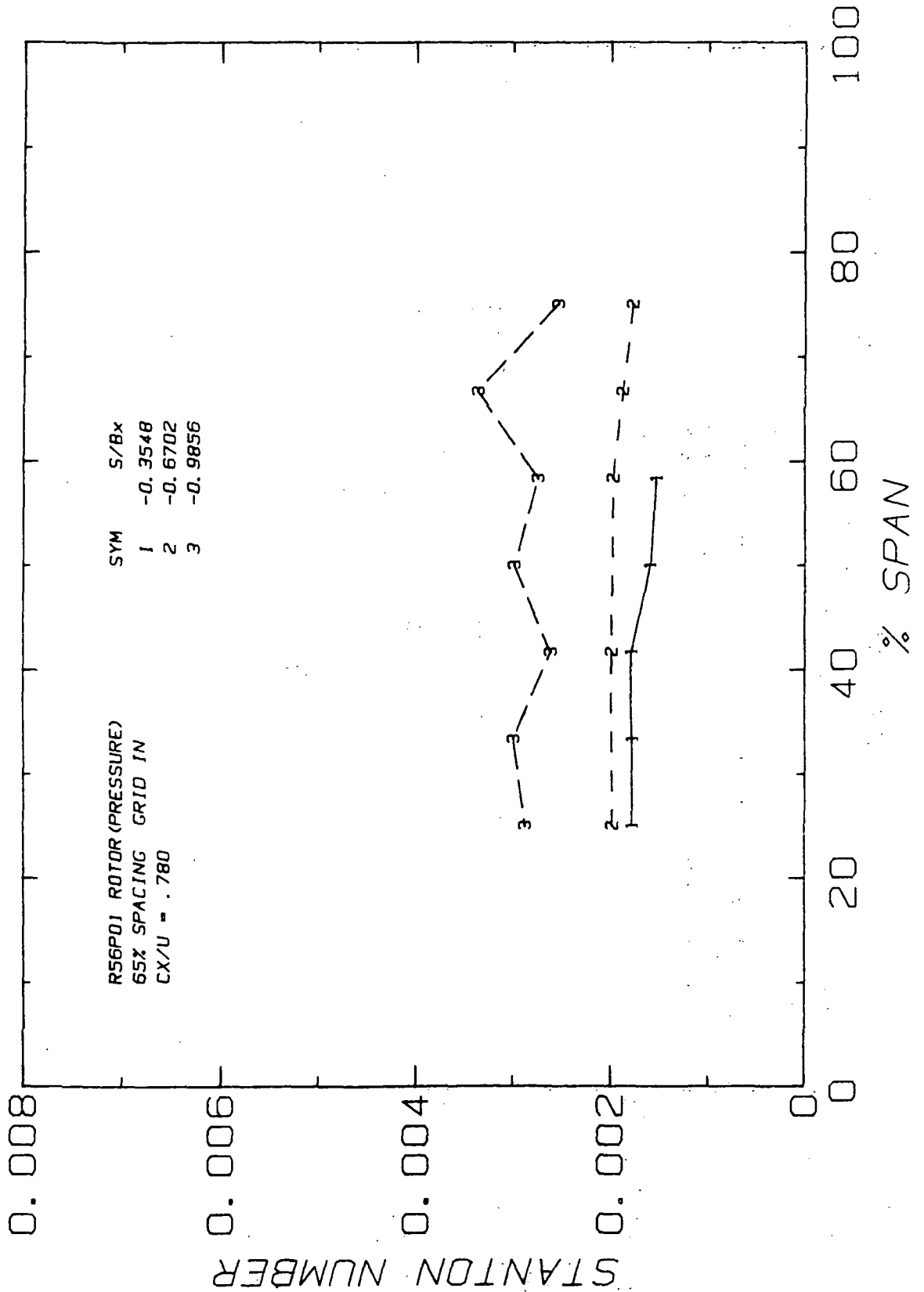
STANTON NO. VS. S/Bx



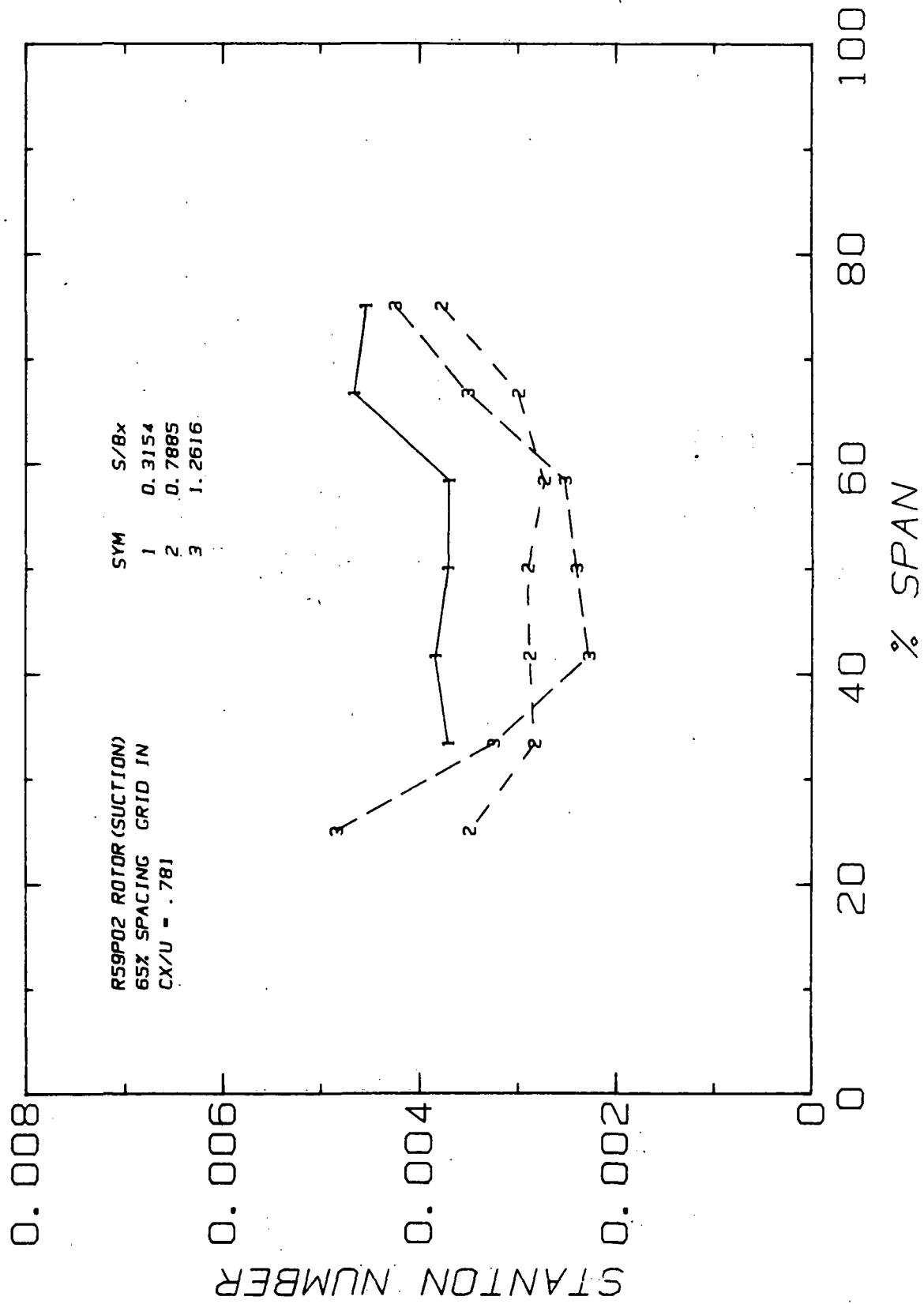
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



2-2

ROTOR(PRESSURE)

CX/U=.780

GRID IN

65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 56

POINT: 1

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	52.7	175.4	0.0745	0.01464	0.2600	6.341
SI	11.5	53.5	1.1932	0.02532	2.9507	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
39	0.45	0.071	0.003480	1418.5	76.5	24.7
42	0.30	0.047	0.004366	1779.3	71.7	22.1
59	-0.75	-0.118	0.002104	857.7	91.4	33.0
60	-1.00	-0.158	0.001972	803.7	93.9	34.4
61	-1.25	-0.197	0.001864	759.8	96.3	35.7
62	-1.50	-0.237	0.001676	683.1	101.0	38.3
63	-1.75	-0.276	0.001643	669.4	102.0	38.9
67	-2.25	-0.355	0.001590	648.1	103.5	39.7
71	-2.75	-0.434	0.001775	723.3	98.5	36.9
72	-3.25	-0.513	0.001779	725.2	98.3	36.8
81	-4.75	-0.749	0.002218	904.0	89.6	32.0
82	-5.25	-0.828	0.002278	928.3	88.6	31.5
83	-5.75	-0.907	0.002622	1068.4	84.1	28.9
87	-6.25	-0.986	0.002983	1215.7	80.4	26.9
91	-6.75	-1.065	0.003391	1382.1	77.2	25.1

ROTOR(PRESSURE) CX/U=.780 GRID IN 65X SPACING

SPANWISE HEAT TRANSFER RUN: 56 POINT: 1

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	52.7	175.4	0.0745	0.01464	0.2600	6.341
SI	11.5	53.5	1.1932	0.02532	2.9507	16.106

FOR UNITS SEE NOMENCLATURE

=====

S/BX = -0.35483

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
66	3.50	58.3	0.001527	622.4	105.5	40.8
67	3.00	50.0	0.001590	648.1	103.5	39.7
68	2.50	41.7	0.001786	727.9	98.2	36.8
69	2.00	33.3	0.001777	724.3	98.4	36.9
70	1.50	25.0	0.001774	722.8	98.5	36.9

=====

S/BX = -0.67024

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
74	4.50	75.0	0.001775	723.6	98.3	36.9
75	4.00	66.7	0.001878	765.5	96.0	35.5
76	3.50	58.3	0.001974	804.4	94.0	34.4
78	2.50	41.7	0.001990	810.9	93.6	34.2
80	1.50	25.0	0.001979	806.5	93.9	34.4

=====

S/BX = -0.98565

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
84	4.50	75.0	0.002535	1033.4	85.1	29.5
85	4.00	66.7	0.003360	1369.4	77.4	25.2
86	3.50	58.3	0.002737	1115.4	82.8	28.2
87	3.00	50.0	0.002983	1215.7	80.4	26.9
88	2.50	41.7	0.002608	1063.0	84.3	29.0
89	2.00	33.3	0.002993	1219.7	80.4	26.9
90	1.50	25.0	0.002869	1169.1	81.5	27.5

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ROTOR(SUCTION) CX/U=.781 GRID IN 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 59 POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	55.6	175.6	0.0741	0.01471	0.2780	6.341
SI	13.1	53.5	1.1868	0.02544	3.1550	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	10.00	1.577	0.002452	989.9	91.1	32.9
2	9.50	1.498	0.002467	996.1	91.0	32.8
3	9.00	1.419	0.002295	926.7	93.7	34.3
4	8.50	1.340	0.002221	896.7	95.1	35.1
8	8.00	1.262	0.002403	970.1	92.3	33.5
13	7.00	1.104	0.002235	902.5	95.1	35.0
14	6.50	1.025	0.002508	1012.6	91.0	32.8
15	6.00	0.946	0.002401	969.5	92.5	33.6
20	5.00	0.789	0.002902	1171.6	86.3	30.2
25	4.00	0.631	0.002971	1199.8	85.6	29.8
27	3.00	0.473	0.003204	1293.6	83.5	28.6
28	2.50	0.394	0.003389	1368.6	81.9	27.7
32	2.00	0.315	0.003712	1499.0	79.7	26.5
38	0.50	0.079	0.003736	1508.5	79.4	26.3
40	0.40	0.063	0.003887	1569.4	78.5	25.8
41	0.35	0.055	0.004238	1711.2	76.7	24.8
43	0.25	0.039	0.004573	1846.5	75.1	24.0
44	0.20	0.032	0.004098	1654.7	77.4	25.2
48	0.00	0.000	0.003874	1564.1	78.6	25.9
49	-0.05	-0.008	0.004203	1697.1	76.8	24.9
50	-0.10	-0.016	0.003575	1443.4	80.5	26.9
52	-0.20	-0.032	0.003892	1571.3	78.5	25.8
53	-0.25	-0.039	0.003716	1500.3	79.6	26.4
54	-0.30	-0.047	0.003227	1302.9	83.1	28.4
56	-0.40	-0.063	0.002541	1026.0	90.2	32.4
58	-0.50	-0.079	0.002349	948.3	93.0	33.9

ROTOR(SUCTION)

CX/U=.781

GRID IN : 65% SPACING

SPANWISE HEAT TRANSFER

RUN: 59 POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHD-EXIT	K	Q-NOM	BX
ENGLISH	55.6	175.6	0.0741	0.01471	0.2780	6.341
SI	13.1	53.5	1.1868	0.02544	3.1550	16.106

FOR UNITS SEE NOMENCLATURE

=====

S/BX = 0.31541

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
29	4.50	75.0	0.004538	1832.5	75.4	24.1
30	4.00	66.7	0.004660	1881.7	74.8	23.8
31	3.50	58.3	0.003697	1492.8	79.8	26.5
32	3.00	50.0	0.003712	1499.0	79.7	26.5
33	2.50	41.7	0.003838	1549.6	78.9	26.1
34	2.00	33.3	0.003703	1495.1	79.7	26.5

=====

S/BX = 0.78852

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
17	4.50	75.0	0.003774	1523.8	79.3	26.3
18	4.00	66.7	0.002993	1208.6	85.4	29.7
19	3.50	58.3	0.002730	1102.3	88.2	31.2
20	3.00	50.0	0.002902	1171.6	86.3	30.2
21	2.50	41.7	0.002876	1161.4	86.6	30.3
22	2.00	33.3	0.002827	1141.4	87.1	30.6
23	1.50	25.0	0.003492	1409.8	81.2	27.3

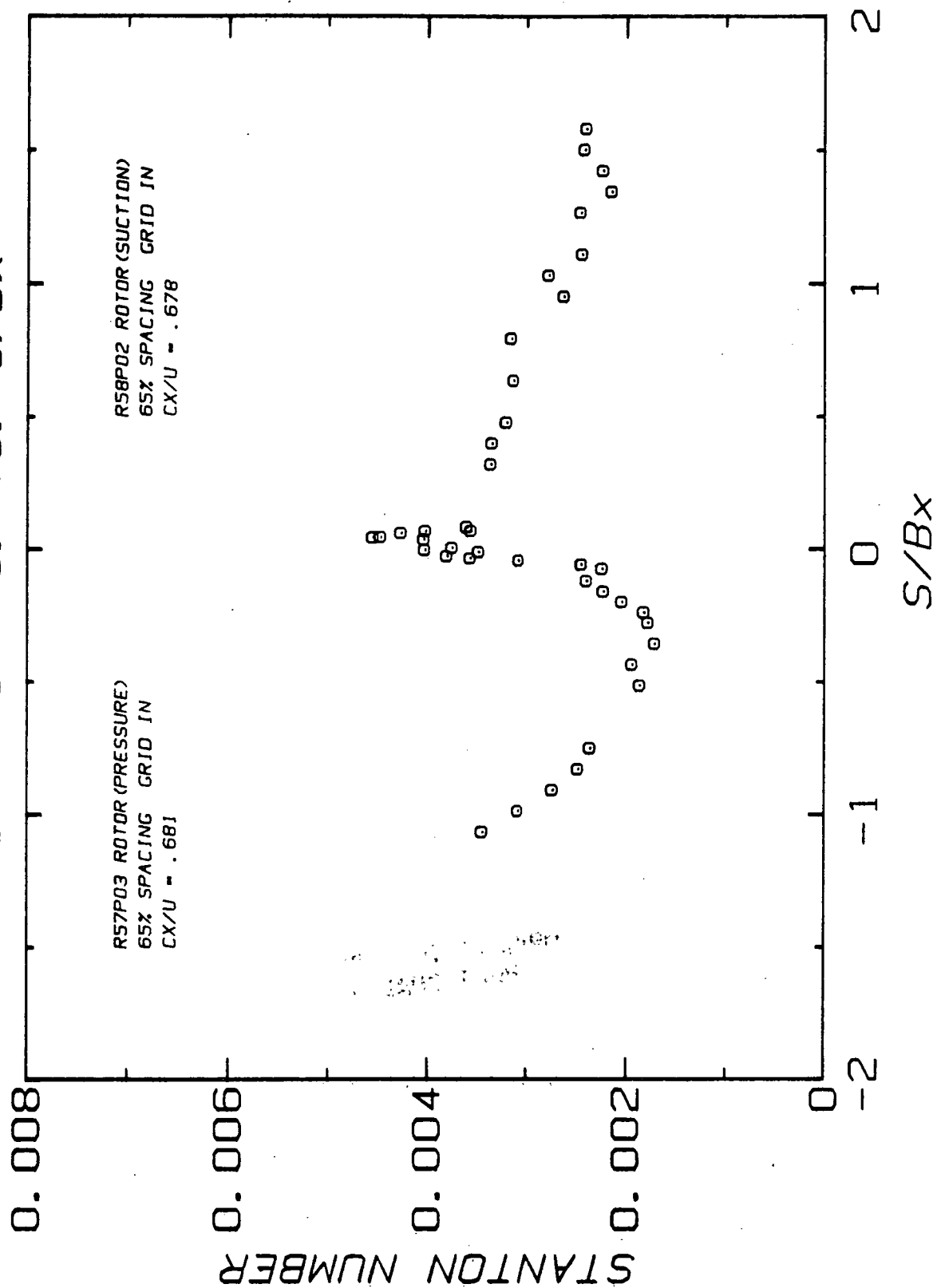
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S/BX = 1.26163

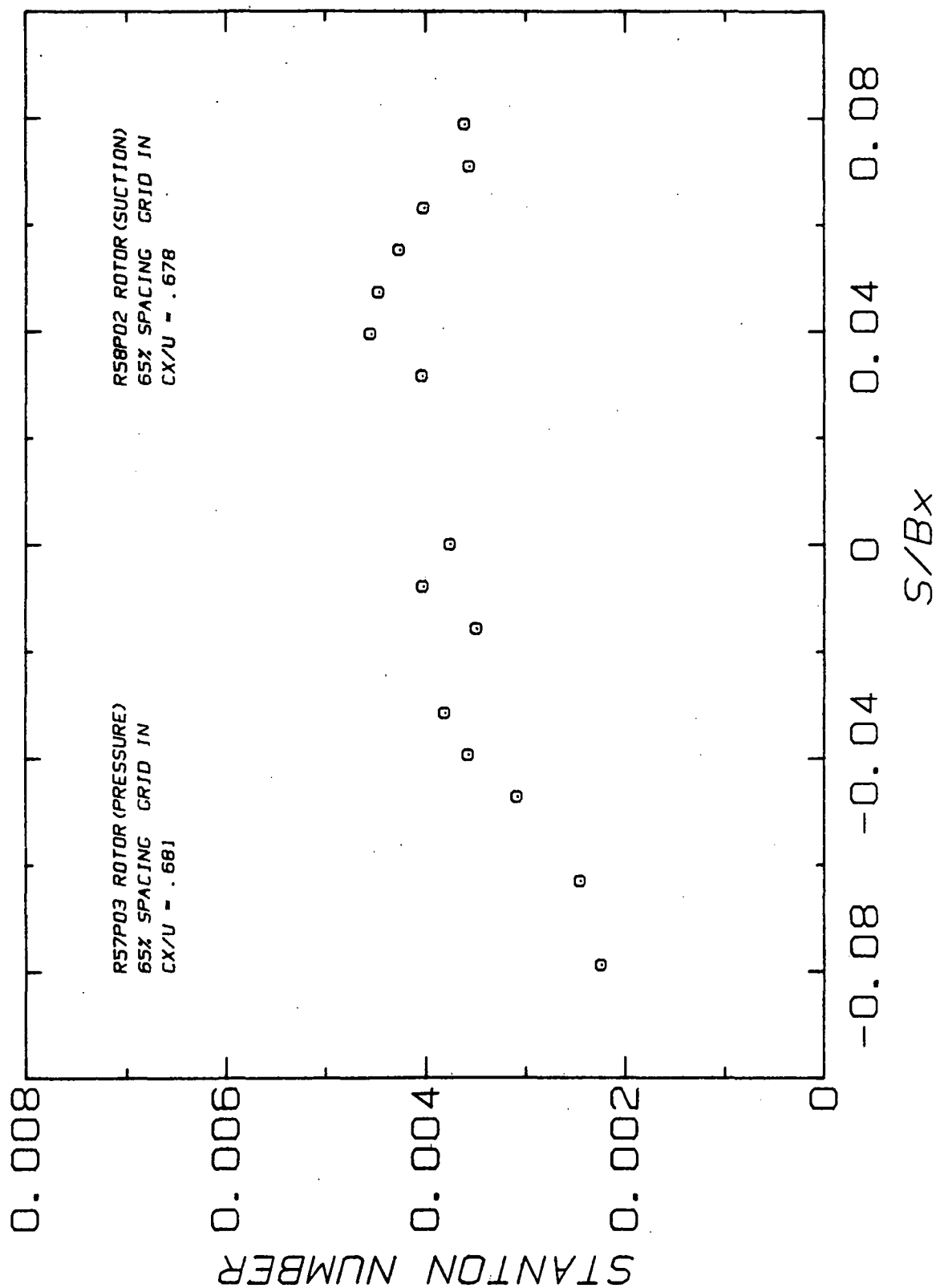
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
5	4.50	75.0	0.004242	1712.9	76.8	24.9
6	4.00	66.7	0.003506	1415.8	81.1	27.3
7	3.50	58.3	0.002515	1015.6	90.8	32.6
8	3.00	50.0	0.002403	970.1	92.3	33.5
9	2.50	41.7	0.002270	916.6	94.4	34.7
10	2.00	33.3	0.003247	1311.0	83.1	28.4
11	1.50	25.0	0.004835	1952.1	74.2	23.5

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OF POOR QUALITY

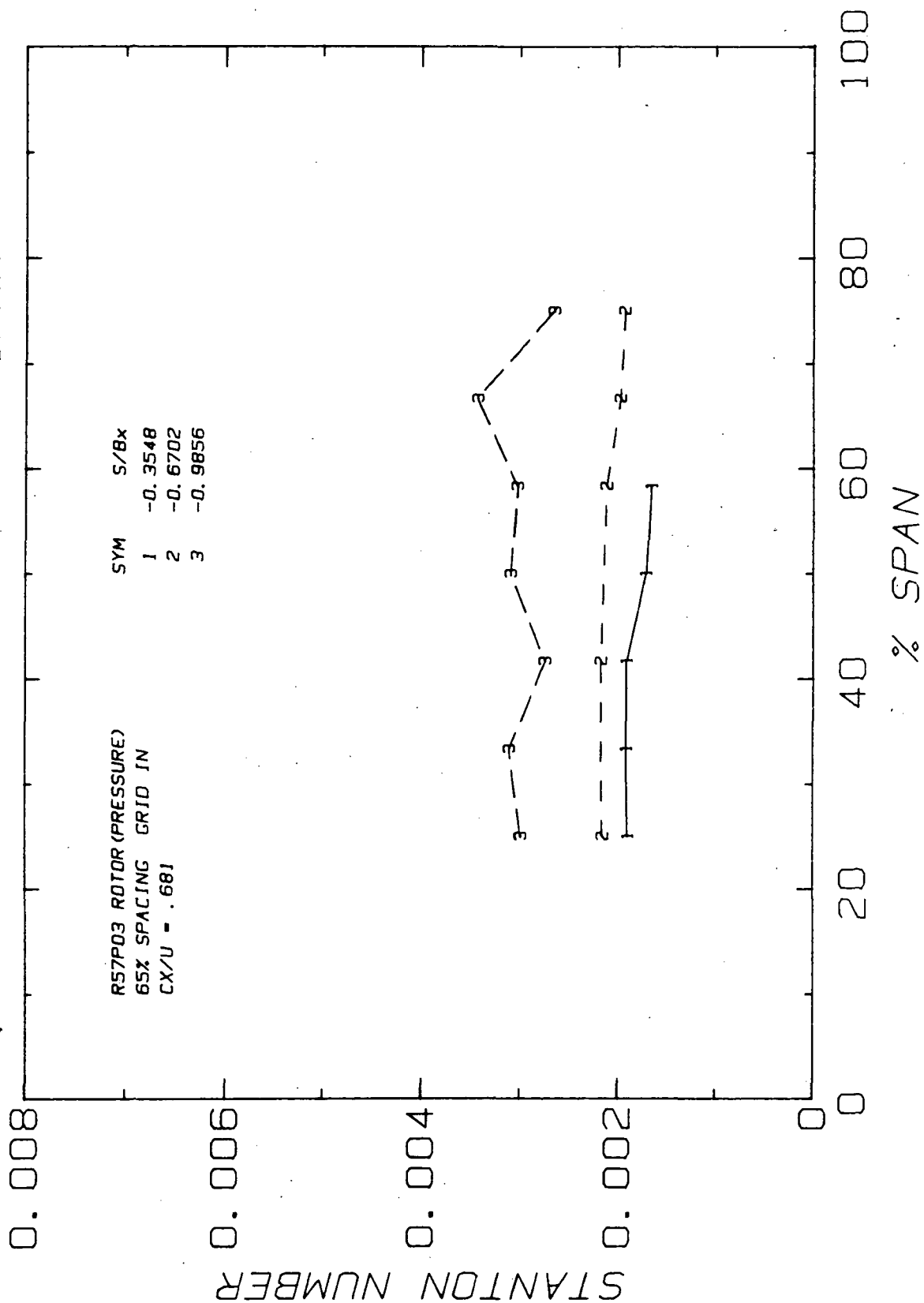
STANTON NO. VS. S/Bx



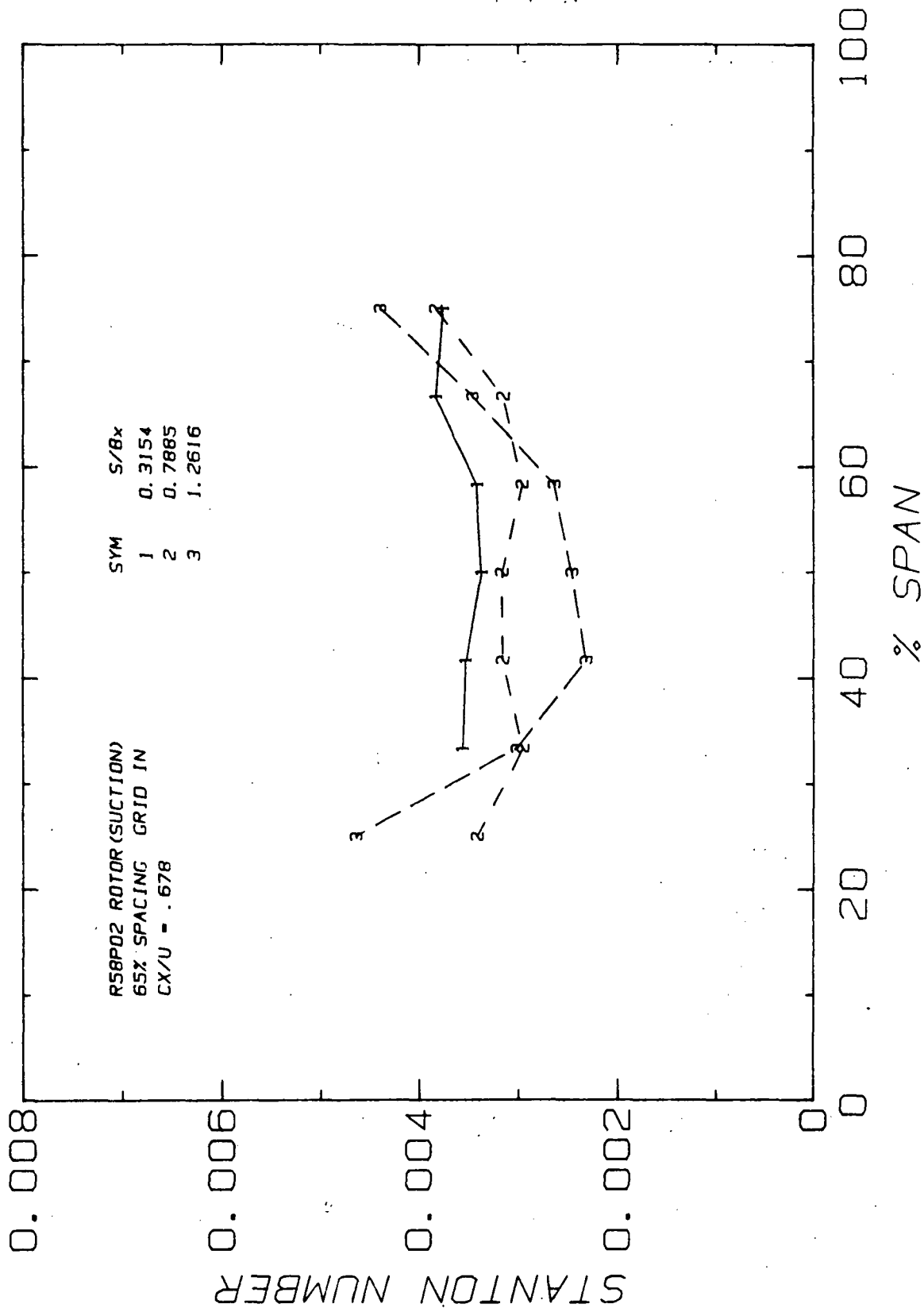
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



ORIGINAL PAGE IS
OF POOR QUALITY

ROTOR(PRESSURE) CX/U=.681 GRID IN 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 57 POINT: 3

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	55.1	175.9	0.0740	0.01469	0.2770	6.341
SI	12.8	53.6	1.1853	0.02541	3.1437	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
39	0.45	0.071	0.003553	1437.8	80.1	26.7
42	0.30	0.047	0.004466	1807.0	75.1	24.0
59	-0.75	-0.118	0.002388	966.2	92.0	33.3
60	-1.00	-0.158	0.002221	898.7	94.7	34.8
61	-1.25	-0.197	0.002035	823.6	98.2	36.8
62	-1.50	-0.237	0.001814	734.0	103.3	39.6
63	-1.75	-0.276	0.001771	716.6	104.4	40.2
67	-2.25	-0.355	0.001705	690.0	106.3	41.3
71	-2.75	-0.434	0.001933	782.3	100.5	38.0
72	-3.25	-0.513	0.001854	750.2	102.3	39.1
81	-4.75	-0.749	0.002355	952.9	92.5	33.6
82	-5.25	-0.828	0.002476	1001.7	90.8	32.7
83	-5.75	-0.907	0.002733	1105.9	87.5	30.8
87	-6.25	-0.986	0.003086	1248.6	83.9	28.9
91	-6.75	-1.065	0.003447	1394.8	81.0	27.2

ORIGINAL PAGE IS
OF POOR QUALITY

ROTOR(PRESSURE) CX/U=.681 GRID IN 65% SPACING

SPANWISE HEAT TRANSFER RUN: 57 POINT: 3

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	55.1	175.9	0.0740	0.01469	0.2770	6.341
SI	12.8	53.6	1.1853	0.02541	3.1437	16.106

FOR UNITS SEE NOMENCLATURE

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S/BX = -0.35483

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
66	3.50	58.3	0.001653	668.9	107.8	42.1
67	3.00	50.0	0.001705	690.0	106.3	41.3
68	2.50	41.7	0.001903	769.9	101.2	38.4
69	2.00	33.3	0.001903	770.0	101.2	38.4
70	1.50	25.0	0.001889	764.3	101.5	38.6

=====

S/BX = -0.67024

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
74	4.50	75.0	0.001930	781.0	100.4	38.0
75	4.00	66.7	0.001971	797.6	99.5	37.5
76	3.50	58.3	0.002114	855.4	96.7	35.9
78	2.50	41.7	0.002166	876.5	95.7	35.4
80	1.50	25.0	0.002150	869.8	96.0	35.6

=====

S/BX = -0.98565

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
84	4.50	75.0	0.002650	1072.1	88.5	31.4
85	4.00	66.7	0.003422	1384.8	81.2	27.3
86	3.50	58.3	0.003018	1221.1	84.6	29.2
87	3.00	50.0	0.003086	1248.6	83.9	28.9
88	2.50	41.7	0.002733	1105.7	87.5	30.9
89	2.00	33.3	0.003098	1253.6	83.8	28.8
90	1.50	25.0	0.002982	1206.6	84.9	29.4

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ROTOR(SUCTION)

CX/U=.678

GRID IN

65X SPACING

MIDSPAN HEAT TRANSFER

RUN: 58 POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	53.6	175.4	0.0742	0.01466	0.2460	6.341
SI	12.0	53.5	1.1881	0.02536	2.7919	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	10.00	1.577	0.002398	971.6	85.8	29.9
2	9.50	1.498	0.002416	979.1	85.7	29.8
3	9.00	1.419	0.002231	903.9	88.4	31.3
4	8.50	1.340	0.002145	869.1	89.9	32.1
8	8.00	1.262	0.002455	994.9	85.5	29.7
13	7.00	1.104	0.002438	987.9	85.8	29.9
14	6.50	1.025	0.002776	1125.0	82.0	27.8
15	6.00	0.946	0.002624	1063.2	83.6	28.7
20	5.00	0.789	0.003161	1281.0	78.6	25.9
25	4.00	0.631	0.003135	1270.1	78.8	26.0
27	3.00	0.473	0.003210	1300.5	78.2	25.7
28	2.50	0.394	0.003351	1357.6	77.2	25.1
32	2.00	0.315	0.003363	1362.6	77.1	25.1
38	0.50	0.079	0.003602	1459.3	75.5	24.2
40	0.40	0.063	0.004016	1627.2	73.3	22.9
41	0.35	0.055	0.004261	1726.6	72.2	22.3
43	0.25	0.039	0.004545	1841.5	71.0	21.7
44	0.20	0.032	0.004028	1632.0	73.2	22.9
48	0.00	0.000	0.003745	1517.4	74.7	23.7
49	-0.05	-0.008	0.004022	1629.7	73.3	22.9
50	-0.10	-0.016	0.003480	1410.2	76.2	24.6
52	-0.20	-0.032	0.003798	1539.1	74.4	23.5
53	-0.25	-0.039	0.003562	1443.3	75.7	24.3
54	-0.30	-0.047	0.003075	1246.0	79.1	26.2
56	-0.40	-0.063	0.002442	989.4	85.5	29.7
58	-0.50	-0.079	0.002234	905.3	88.3	31.3

ROTOR(SUCTION)

CX/U=.678

GRID IN

65% SPACING

SPANWISE HEAT TRANSFER

RUN: 58

POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	EX
ENGLISH	53.6	175.4	0.0742	0.01466	0.2460	6.341
SI	12.0	53.5	1.1881	0.02536	2.7919	16.106

FOR UNITS SEE NOMENCLATURE

=====

S/BX = 0.31541

TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
29	4.50	75.0	0.003754	1521.0	74.7	23.7
30	4.00	66.7	0.003827	1550.5	74.3	23.5
31	3.50	58.3	0.003410	1381.9	76.8	24.9
32	3.00	50.0	0.003363	1362.6	77.1	25.1
33	2.50	41.7	0.003524	1428.1	76.1	24.5
34	2.00	33.3	0.003559	1442.2	75.8	24.4

=====

S/BX = 0.78852

TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
17	4.50	75.0	0.003824	1549.6	74.4	23.5
18	4.00	66.7	0.003147	1275.3	78.7	26.0
19	3.50	58.3	0.002954	1197.0	80.3	26.9
20	3.00	50.0	0.003161	1281.0	78.6	25.9
21	2.50	41.7	0.003152	1277.1	78.7	25.9
22	2.00	33.3	0.002948	1194.5	80.4	26.9
23	1.50	25.0	0.003410	1381.7	76.8	24.9

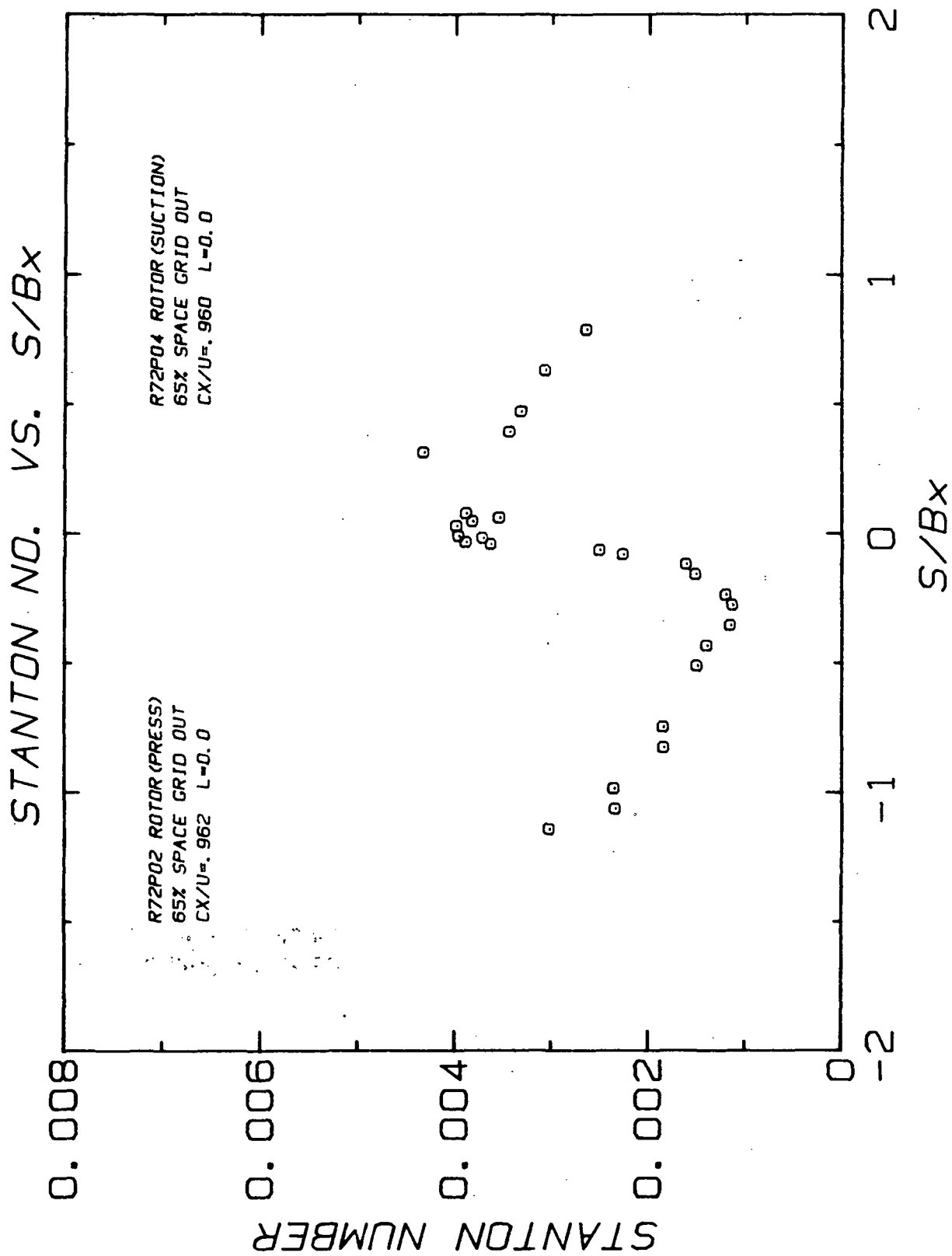
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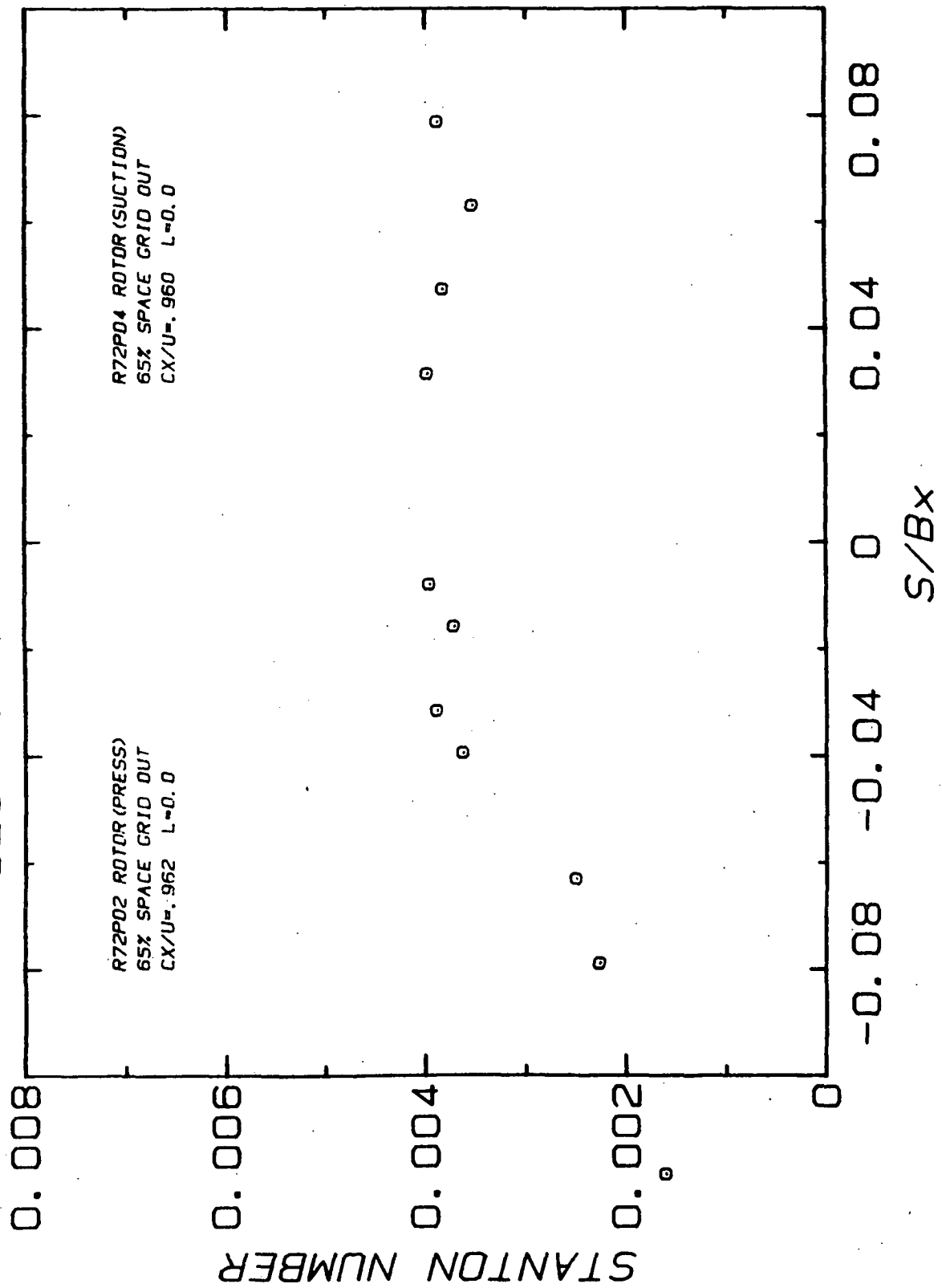
TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
5	4.50	75.0	0.004388	1778.0	71.8	22.1
6	4.00	66.7	0.003453	1399.0	76.6	24.8
7	3.50	58.3	0.002633	1066.7	83.5	28.6
8	3.00	50.0	0.002455	994.9	85.5	29.7
9	2.50	41.7	0.002310	935.9	87.5	30.8
10	2.00	33.3	0.003014	1221.1	79.8	26.6
11	1.50	25.0	0.004637	1878.8	70.8	21.6

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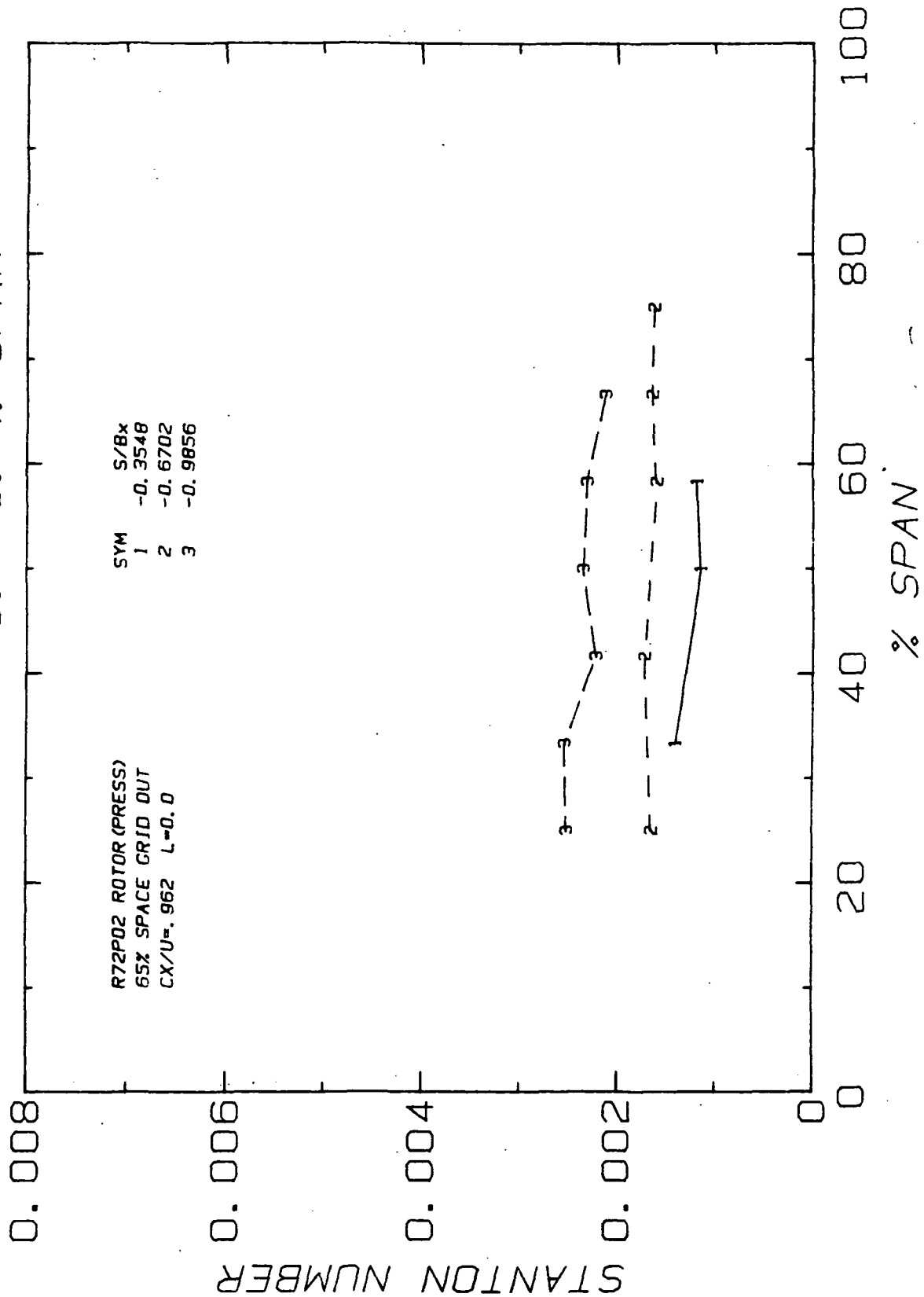
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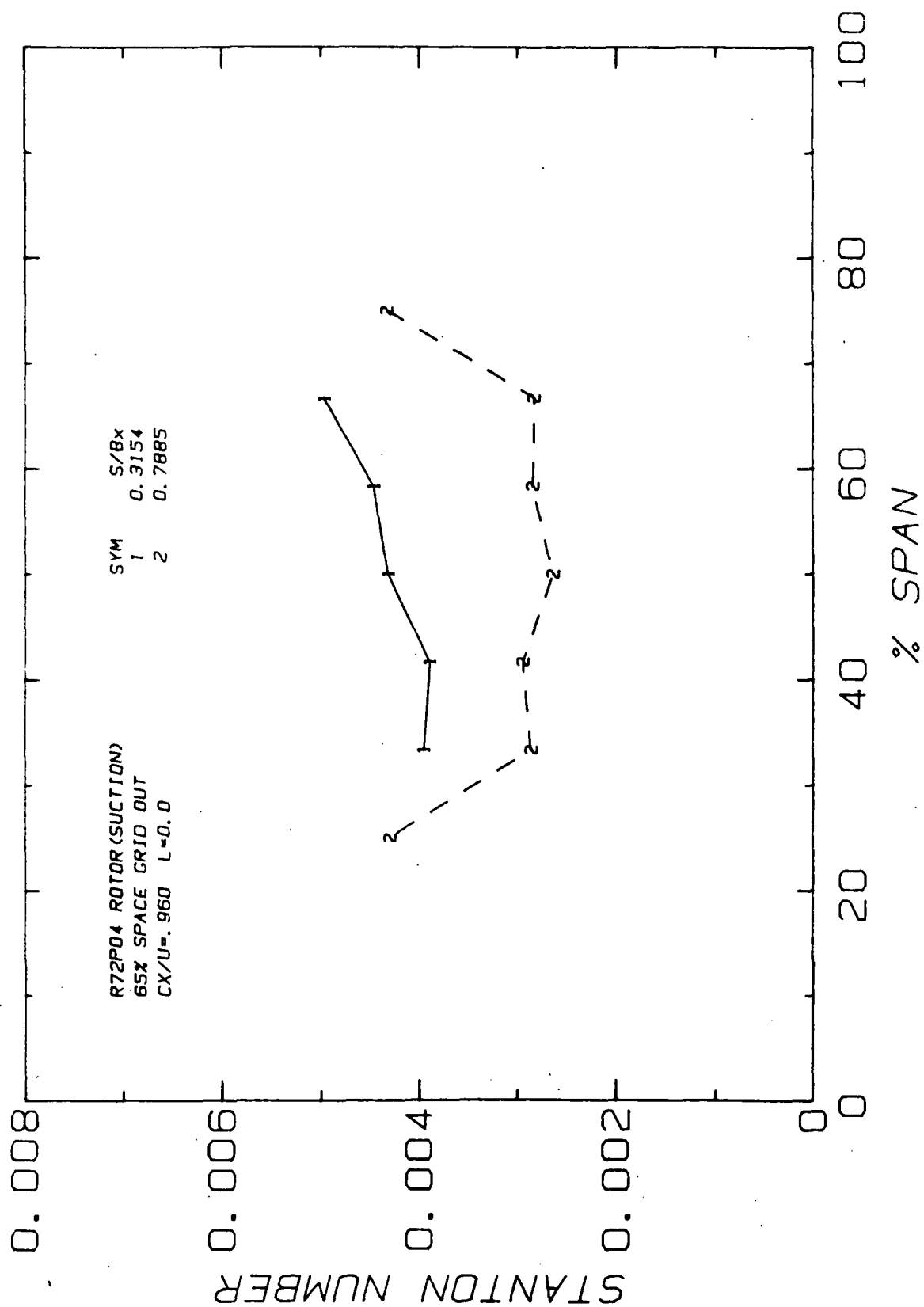
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



ROTOR(PRESSURE) L=0 CX/U=.942 GRID OUT 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 72 POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	N	Q-NOM	BX
ENGLISH	42.1	171.7	0.0744	0.01435	0.2590	6.341
SI	5.6	52.3	1.2233	0.02482	2.9394	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
42	0.30	0.047	0.003805	1587.2	64.1	17.8
59	-0.75	-0.118	0.001593	664.5	93.1	34.0
60	-1.00	-0.158	0.001494	623.2	96.4	35.8
62	-1.50	-0.237	0.001181	492.8	109.9	43.3
63	-1.75	-0.276	0.001115	465.0	113.7	45.4
67	-2.25	-0.355	0.001139	475.0	112.3	44.6
71	-2.75	-0.434	0.001384	577.4	100.6	38.1
72	-3.25	-0.513	0.001486	619.9	96.8	36.0
81	-4.75	-0.749	0.001831	764.0	86.9	30.5
82	-5.25	-0.828	0.001830	763.4	86.9	30.5
87	-6.25	-0.986	0.002344	977.8	77.5	25.3
91	-6.75	-1.065	0.002334	973.4	77.7	25.4
92	-7.25	-1.143	0.003012	1256.2	70.0	21.1

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SPANWISE HEAT TRANSFER

RUN: 72

POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	RX
ENGLISH	42.1	171.7	0.0764	0.01435	0.2590	6.341
SI	5.6	52.3	1.2233	0.02482	2.9394	16.106

FOR UNITS SEE NOMENCLATURE

=====						
S/BX = -0.35483						
TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
66	3.50	58.3	0.001182	493.3	109.9	43.3
67	3.00	50.0	0.001139	475.0	112.3	44.6
69	2.00	33.3	0.001400	544.0	100.0	37.8
=====						
S/BX = -0.67024						
TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
74	4.50	75.0	0.001620	675.7	92.4	33.6
75	4.00	66.7	0.001643	685.4	91.8	33.2
76	3.50	58.3	0.001593	664.5	93.2	34.0
78	2.50	41.7	0.001718	716.8	89.7	32.0
80	1.50	25.0	0.001642	685.0	91.8	33.2
=====						
S/BX = -0.98565						
TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
85	4.00	66.7	0.002123	885.6	81.0	27.2
86	3.50	58.3	0.002307	962.2	78.1	25.6
87	3.00	50.0	0.002344	977.8	77.5	25.3
88	2.50	41.7	0.002219	925.5	79.4	26.3
89	2.00	33.3	0.002536	1050.0	74.9	23.9
90	1.50	25.0	0.002512	1047.9	75.2	24.0

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ROTOR(SUCTION) L=0 CX/U=.960 GRID OUT 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 72 POINT: 4

SYSTEM OF UNITS	TT	U-EXIT	RHD-EXIT	K	R-NOM	MX
ENGLISH	41.1	171.2	0.0765	0.01433	0.2460	6.341
SI	5.1	52.2	1.2259	0.02479	2.7919	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
20	5.00	0.789	0.002636	1100.1	70.4	21.3
25	4.00	0.631	0.003064	1270.8	66.4	19.1
27	3.00	0.473	0.003313	1382.6	64.5	18.1
28	2.50	0.394	0.003431	1431.7	63.7	17.6
32	2.00	0.315	0.004316	1801.2	59.2	15.1
38	0.50	0.079	0.003879	1618.8	61.1	16.2
40	0.40	0.063	0.003530	1473.4	63.1	17.3
44	0.20	0.032	0.003979	1660.5	60.6	15.9
49	-0.05	-0.008	0.003958	1651.7	60.7	16.0
50	-0.10	-0.016	0.003708	1547.7	62.0	16.7
52	-0.20	-0.032	0.003885	1621.5	61.1	16.2
53	-0.25	-0.039	0.003622	1511.5	62.5	17.0
56	-0.40	-0.063	0.002500	1043.3	71.8	22.1
58	-0.50	-0.079	0.002260	943.3	74.9	23.8

ROTOR(SUCTION) L=0 CX/U=.960

GRID OUT

65% SPANNING

SPANWISE HEAT TRANSFER

RUN: 72

POINT: 4

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	D-NOM	BX
ENGLISH	41.1	171.2	0.0765	0.01433	0.2460	6.341
SI	5.1	52.2	1.2259	0.02479	2.7919	16.106

FOR UNITS SEE NOMENCLATURE

=====

S/BX = 0.31511

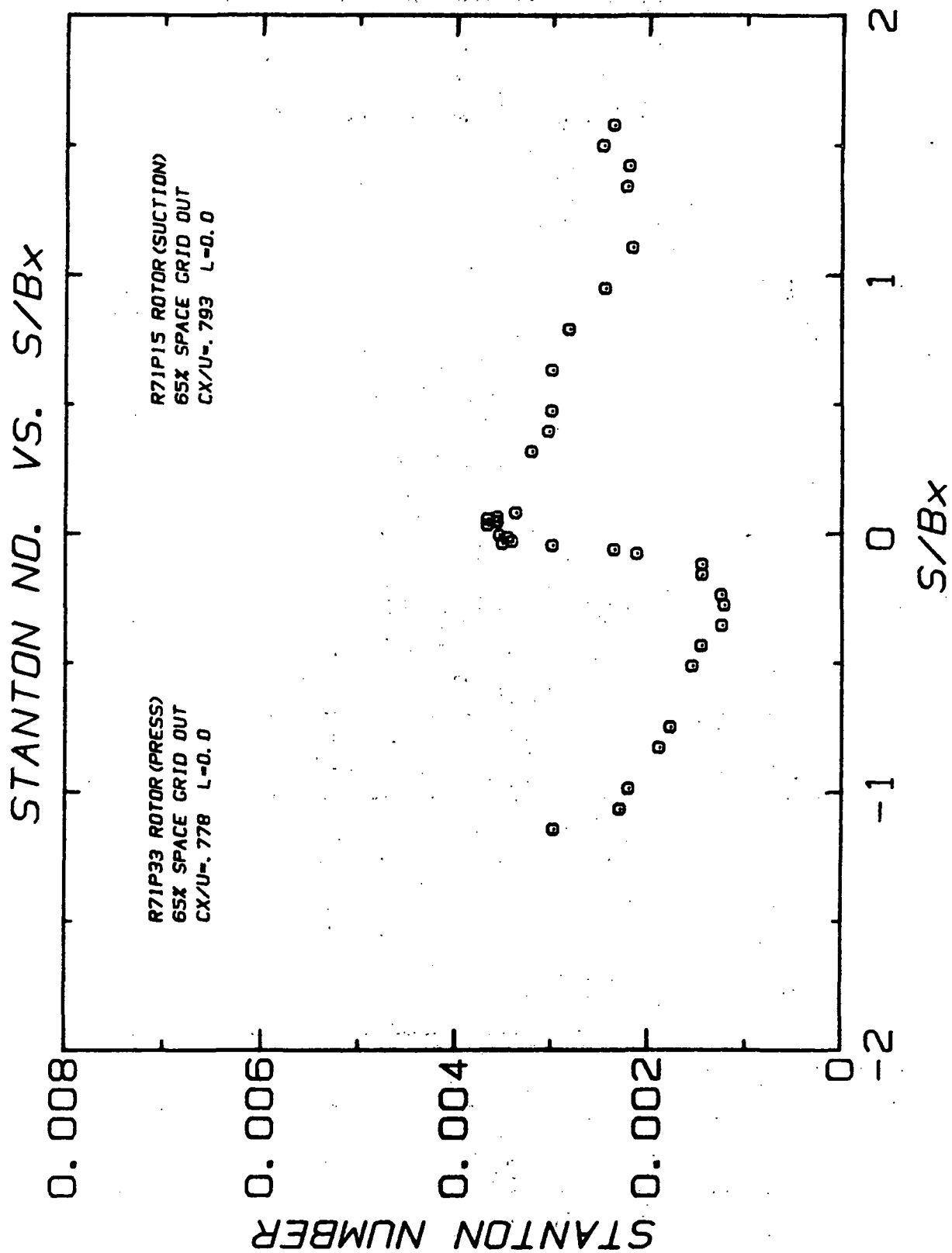
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
30	4.00	66.7	0.004961	2070.6	56.8	13.8
31	3.50	58.3	0.004461	1861.7	58.6	14.8
32	3.00	50.0	0.004316	1801.2	59.2	15.1
33	2.50	41.7	0.003890	1623.3	61.1	16.2
34	2.00	33.3	0.003950	1648.4	60.8	16.0

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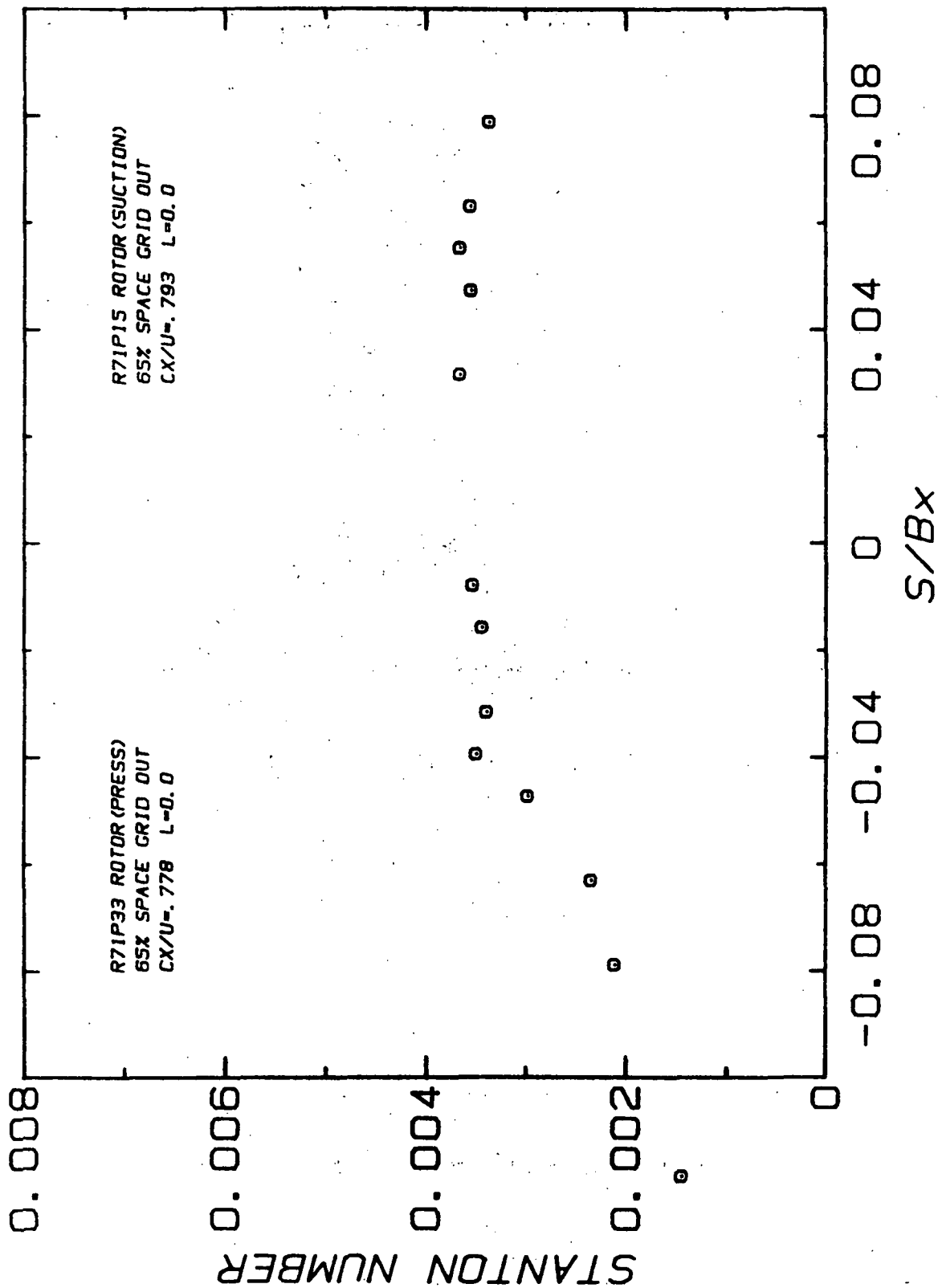
S/BX = 0.78852

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
17	4.50	75.0	0.004329	1806.8	59.1	15.1
18	4.00	66.7	0.002829	1180.7	68.5	20.3
19	3.50	58.3	0.002842	1186.2	68.3	20.2
20	3.00	50.0	0.002636	1100.1	70.4	21.3
21	2.50	41.7	0.002945	1229.0	67.4	19.7
22	2.00	33.3	0.002854	1191.2	68.2	20.1
23	1.50	25.0	0.004294	1792.0	59.3	15.2

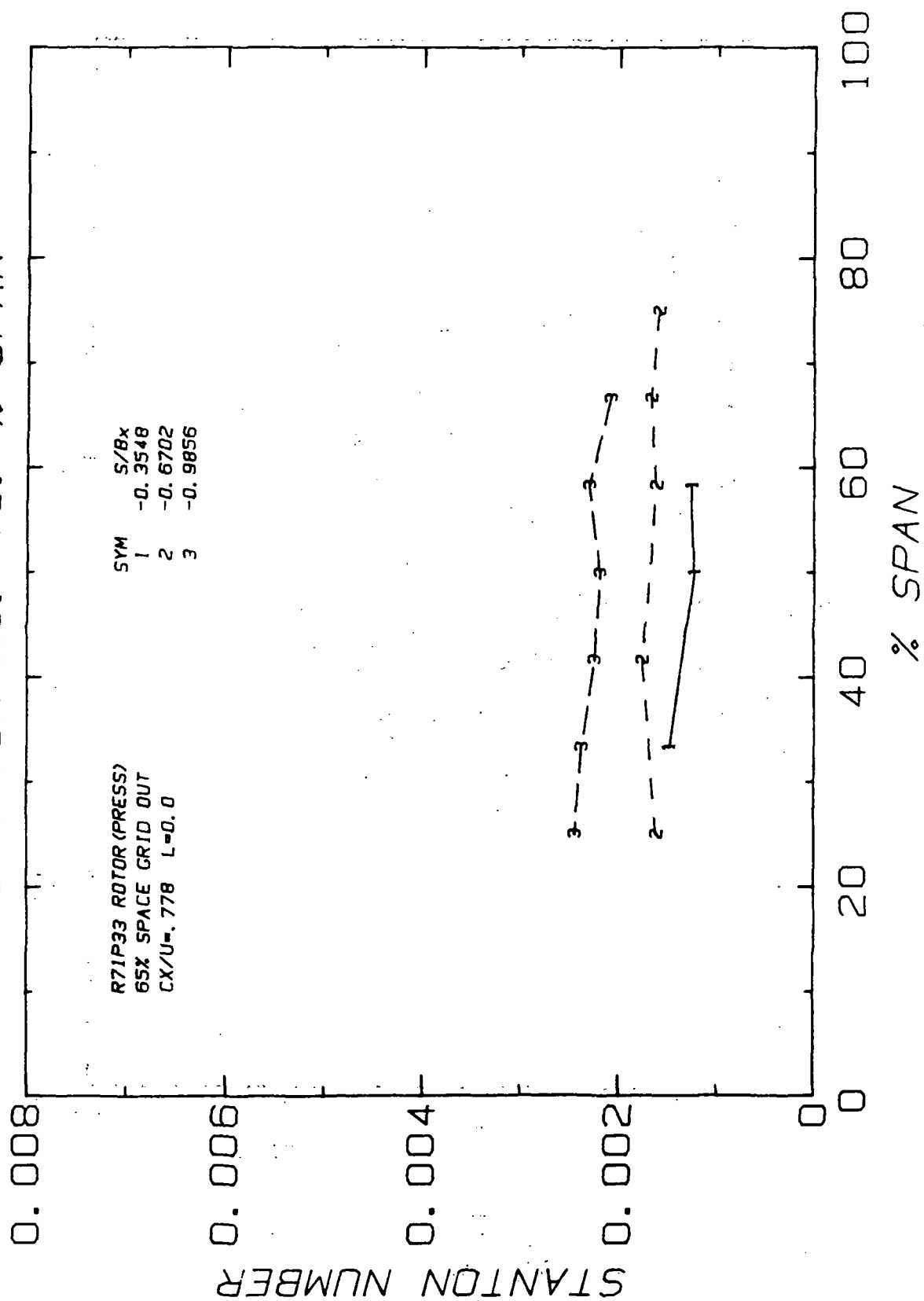
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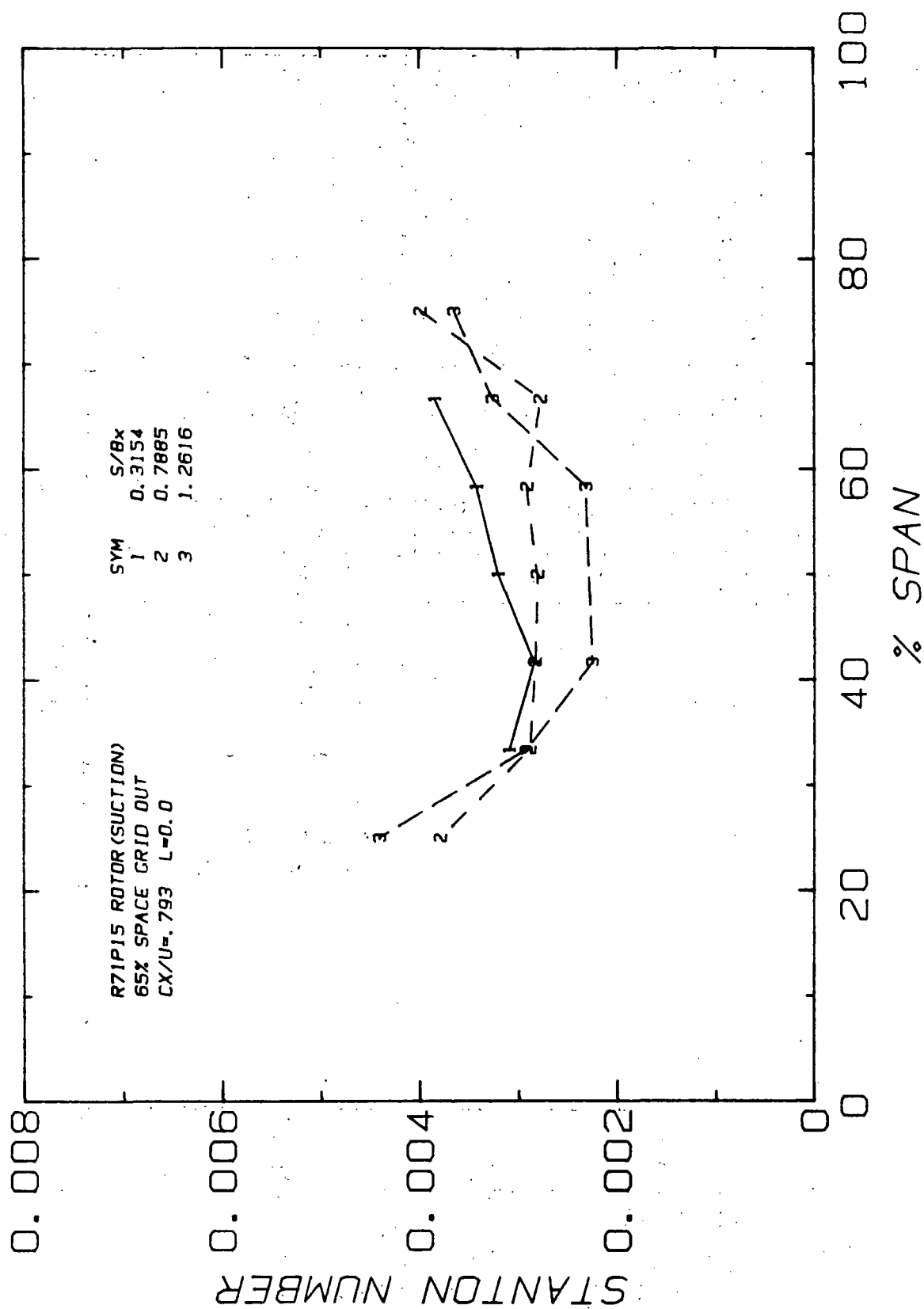
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



ROTOR(PRESSURE) L=0 CX/U=.778 GRID=001 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 71 POINT: 33

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	HX
ENGLISH	37.3	170.0	0.0769	0.01423	0.2670	6.341
SI	3.0	51.8	1.2313	0.02461	3.0302	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
42	0.30	0.047	0.003542	1484.8	61.6	16.5
59	-0.75	-0.118	0.001429	598.9	95.6	35.3
60	-1.00	-0.158	0.001428	598.5	95.7	35.4
62	-1.50	-0.237	0.001231	516.1	104.5	40.3
63	-1.75	-0.276	0.001201	503.6	106.1	41.2
67	-2.25	-0.355	0.001230	515.6	104.6	40.4
71	-2.75	-0.434	0.001445	605.8	95.2	35.1
72	-3.25	-0.513	0.001536	644.1	91.9	33.3
81	-4.75	-0.749	0.001759	737.3	85.3	29.6
82	-5.25	-0.828	0.001874	785.6	82.3	28.0
87	-6.25	-0.986	0.002189	917.8	76.3	24.6
91	-6.75	-1.065	0.002280	955.0	74.9	23.8
92	-7.25	-1.143	0.002965	1243.0	66.6	19.2

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SPANWISE HEAT TRANSFER

RUN: 71 POINT: 33

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	PA
ENGLISH	37.3	170.0	0.0769	0.01423	0.2670	6.341
SI	3.0	51.8	1.2313	0.02461	3.0302	16.106

FOR UNITS SEE NOMENCLATURE

S/BX = -0.35483

TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
66	3.50	58.3	0.001258	527.5	103.2	39.6
67	3.00	50.0	0.001230	515.6	104.6	40.4
69	2.00	33.3	0.001488	623.7	93.6	34.2

S/BX = -0.67024

TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
74	4.50	75.0	0.001589	666.2	90.1	32.3
75	4.00	66.7	0.001674	701.6	87.6	30.9
76	3.50	58.3	0.001614	676.6	89.3	31.9
78	2.50	41.7	0.001759	737.3	85.3	29.6
80	1.50	25.0	0.001615	677.0	89.3	31.8

S/BX = -0.98565

TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
85	4.00	66.7	0.002085	874.1	78.1	25.6
86	3.50	58.3	0.002299	963.9	74.5	23.6
87	3.00	50.0	0.002189	917.8	76.3	24.6
88	2.50	41.7	0.002247	941.0	75.3	24.1
89	2.00	33.3	0.002379	997.1	73.3	23.0
90	1.50	25.0	0.002440	1026.1	72.3	22.4

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ROTOR(SUCTION) CX/U=0.793 GRID OUT 55% SPACING

MIDSPAN HEAT TRANSFER

RUN: 71 POIN1: 15

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	RX
ENGLISH	40.4	174.2	0.0773	0.01431	0.2390	6.341
SI	4.7	53.1	1.2384	0.02475	2.7124	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	10.00	1.577	0.002356	1012.4	71.5	22.0
2	9.50	1.498	0.002466	1059.4	70.3	21.3
3	9.00	1.419	0.002190	940.9	74.0	23.3
4	8.50	1.340	0.002215	951.4	73.7	23.2
13	7.00	1.104	0.002160	928.0	74.6	23.6
15	6.00	0.946	0.002439	1047.9	70.8	21.5
20	5.00	0.789	0.002810	1207.1	66.8	19.4
25	4.00	0.631	0.002989	1284.3	65.3	18.5
27	3.00	0.473	0.002999	1288.2	65.2	18.4
28	2.50	0.394	0.003032	1302.4	64.9	18.3
32	2.00	0.315	0.003205	1377.1	63.6	17.5
38	0.50	0.079	0.003364	1445.3	62.5	16.9
40	0.40	0.063	0.003556	1527.7	61.3	16.3
41	0.35	0.055	0.003665	1574.5	60.7	16.0
44	0.20	0.032	0.003664	1574.3	60.7	16.0
49	-0.05	-0.008	0.003537	1519.5	61.4	16.4
50	-0.10	-0.016	0.003441	1478.5	62.0	16.7
52	-0.20	-0.032	0.003400	1460.7	62.3	16.8
53	-0.25	-0.039	0.003504	1505.3	61.6	16.5
54	-0.30	-0.047	0.002983	1281.7	65.2	18.5
56	-0.40	-0.063	0.002342	1006.0	71.8	22.1
58	-0.50	-0.079	0.002108	905.6	75.1	24.0

ROTOR(SUCTION)

CX/U=.793

GRID OUT

65% SPALING

SPANWISE HEAT TRANSFER

RUN: 71

POINT: 15

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NON	BX
ENGLISH	40.4	174.2	0.0773	0.01431	0.2390	6.341
SI	4.7	53.1	1.2384	0.02475	2.7124	16.106

FOR UNITS SEE NOMENCLATURE

=====

S/BX = 0.31541

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
30	4.00	66.7	0.003845	1651.8	59.8	15.4
31	3.50	58.3	0.003426	1471.9	62.1	16.7
32	3.00	50.0	0.003205	1377.1	63.6	17.5
33	2.50	41.7	0.002845	1222.3	66.4	19.1
34	2.00	33.3	0.003099	1331.5	64.4	18.0

=====

S/BX = 0.78852

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
17	4.50	75.0	0.003994	1716.0	59.1	15.1
18	4.00	66.7	0.002780	1194.6	67.1	19.5
19	3.50	58.3	0.002918	1253.5	65.9	18.8
20	3.00	50.0	0.002810	1207.1	66.8	19.4
21	2.50	41.7	0.002838	1219.2	66.6	19.2
22	2.00	33.3	0.002890	1241.6	66.1	19.0
23	1.50	25.0	0.003796	1631.0	60.1	15.6

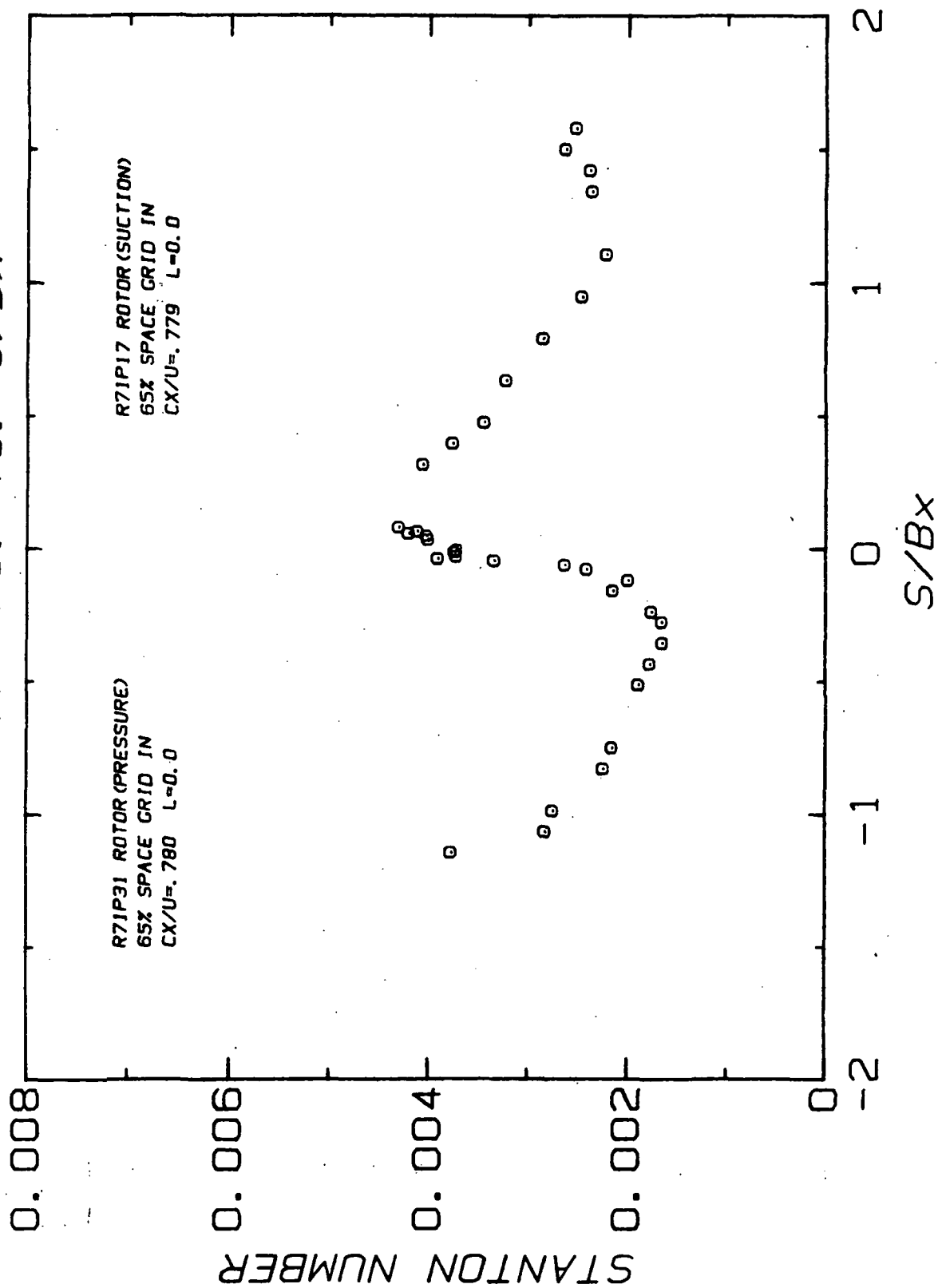
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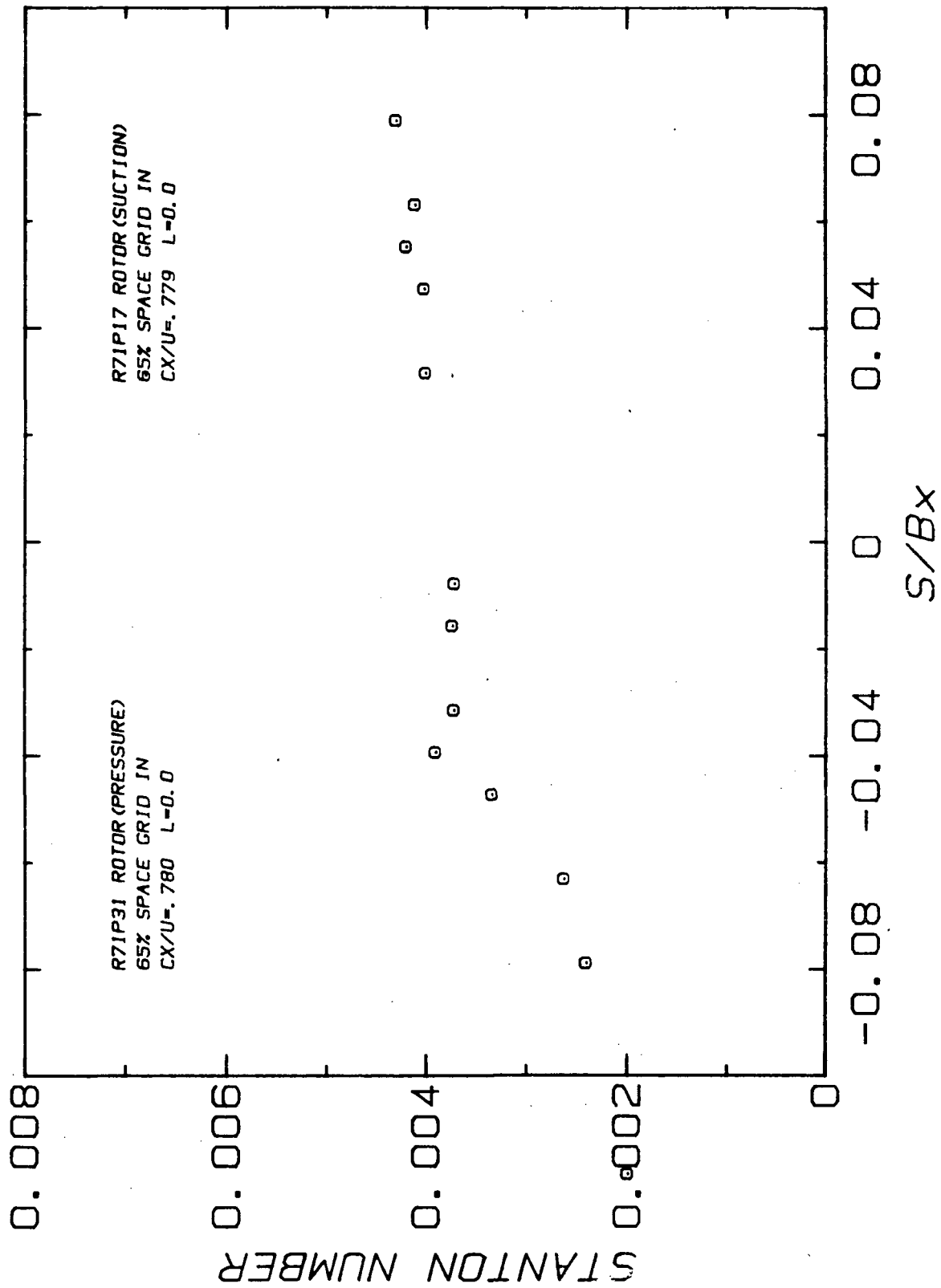
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
5	4.50	75.0	0.003653	1569.3	60.9	16.1
6	4.00	66.7	0.003264	1402.2	63.3	17.4
7	3.50	58.3	0.002318	995.9	72.3	22.4
9	2.50	41.7	0.002253	963.1	73.2	22.9
10	2.00	33.3	0.002926	1257.1	65.9	18.8
11	1.50	25.0	0.004406	1893.0	57.5	14.2

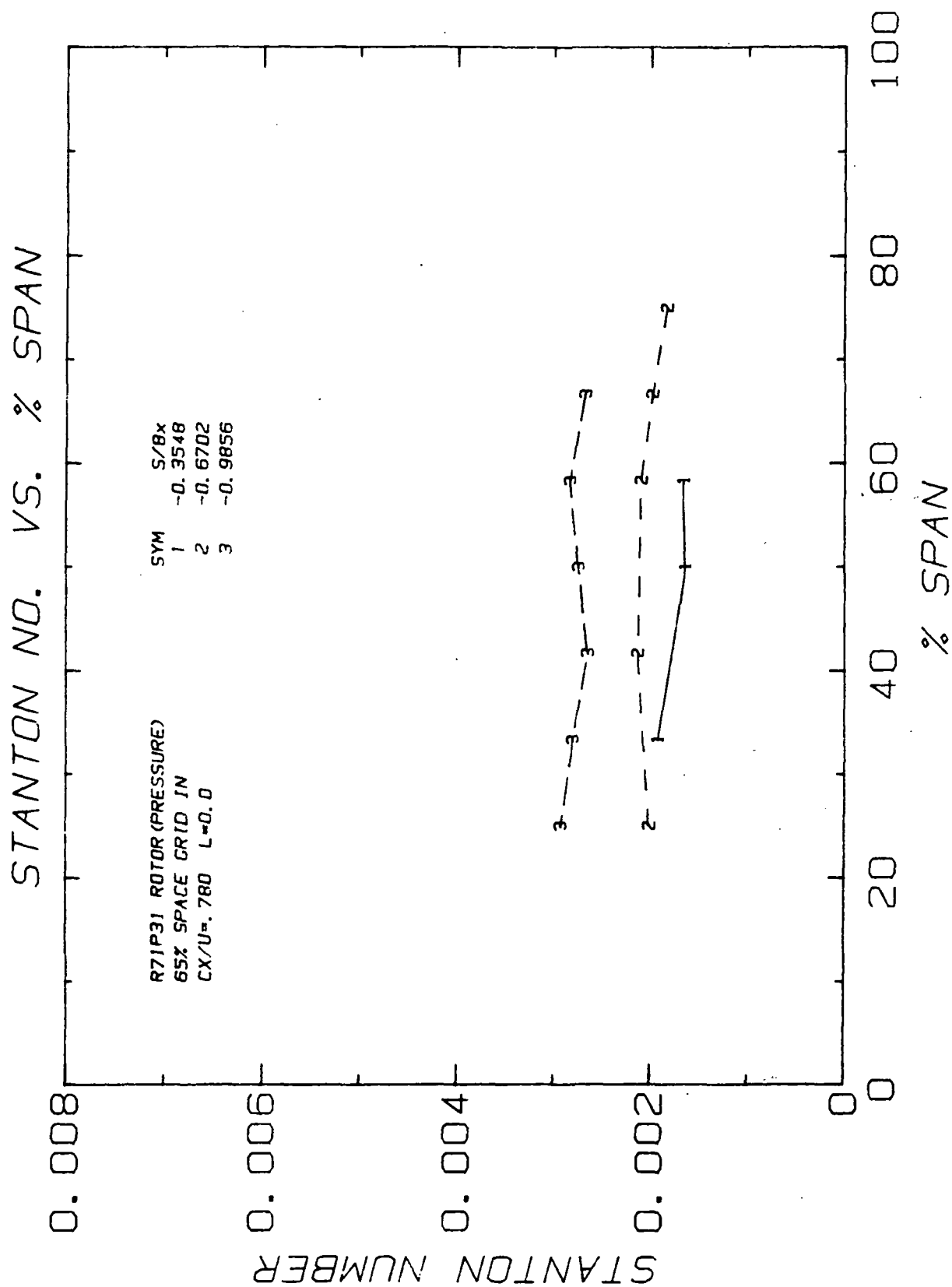
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STANTON NO. VS. S/Bx

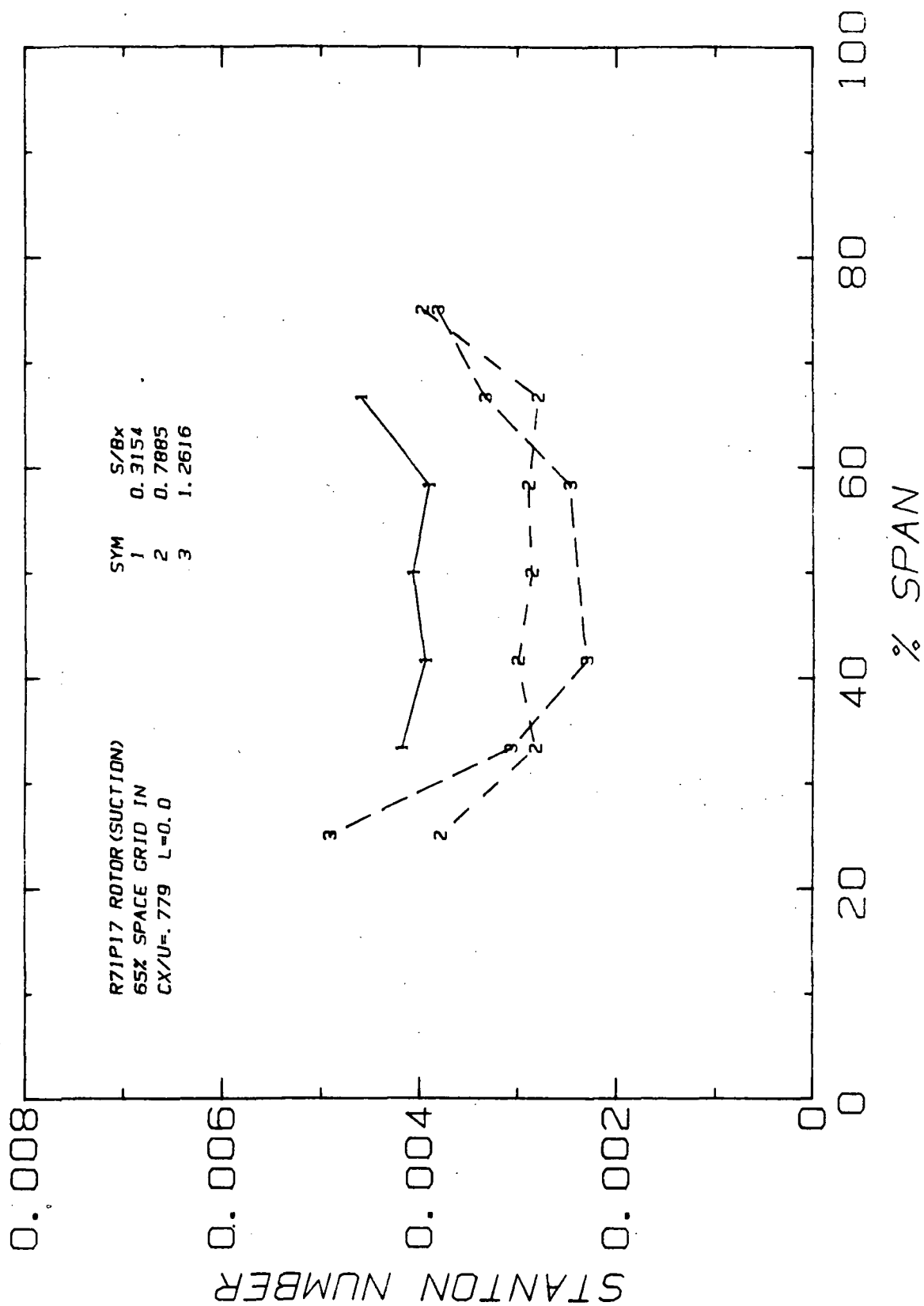


BLOW-UP OF STANTON NO.





STANTON NO. VS. % SPAN



ORIGINAL PAGE IS
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ROTOR(PRESSURE) L=0 CX/U=.780

GRID IN

65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 71 POINT: 31

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	RX
ENGLISH	35.9	170.4	0.0766	0.01420	0.2640	6.341
SI	2.2	52.0	1.2270	0.02456	2.9961	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
42	0.30	0.047	0.004007	1682.2	57.0	13.9
59	-0.75	-0.118	0.001977	840.0	77.8	25.5
60	-1.00	-0.158	0.002134	896.0	74.9	24.8
62	-1.50	-0.237	0.001746	742.8	83.2	28.4
63	-1.75	-0.276	0.001641	688.9	86.1	30.0
67	-2.25	-0.355	0.001633	645.4	86.3	30.2
71	-2.75	-0.434	0.001762	739.7	82.8	28.2
72	-3.25	-0.513	0.001875	787.0	80.1	26.7
81	-4.75	-0.749	0.002144	899.9	74.8	23.8
82	-5.25	-0.828	0.002232	937.1	73.3	23.0
87	-6.25	-0.986	0.002734	1147.6	66.8	19.3
91	-6.75	-1.065	0.002814	1181.1	66.0	18.9
92	-7.25	-1.143	0.003757	1577.1	58.7	14.8

ROTOR(PRESSURE) L=0 CX/U=.780 . GRID IN 65% SPACING

SPANWISE HEAT TRANSFER

RUN: 21 POINT: 31

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	MX
ENGLISH	35.9	170.4	0.0766	0.01420	0.2640	6.341
SI	2.2	52.0	1.2270	0.02456	2.9961	16.106

FOR UNITS SEE NOMENCLATURE

=====						
S/RX = -0.35483						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
66	3.50	58.3	0.001657	695.5	85.6	29.8
67	3.00	50.0	0.001633	685.4	86.3	30.2
69	2.00	33.3	0.001920	806.1	79.1	26.1
=====						
S/RX = -0.67024						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
74	4.50	75.0	0.001828	767.4	81.2	27.3
75	4.00	66.7	0.001979	830.8	77.9	25.5
76	3.50	58.3	0.002093	878.0	75.6	24.2
78	2.50	41.7	0.002125	892.2	75.1	23.9
80	1.50	25.0	0.002007	842.3	77.3	25.2
=====						
S/RX = -0.98565						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
85	4.00	66.7	0.002673	1122.2	67.4	19.7
86	3.50	58.3	0.002830	1188.1	65.8	18.8
87	3.00	50.0	0.002734	1147.6	66.8	19.3
88	2.50	41.7	0.002643	1109.5	67.8	19.9
89	2.00	33.3	0.002800	1175.3	66.1	18.9
90	1.50	25.0	0.002924	1227.4	64.0	18.2

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ROTOR(SUCTION) L=0.00x/U=.779 GRID 1H 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 71 POINT: 17

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	29.4	170.8	0.0789	0.01403	0.2690	6.341
SI	-1.4	52.1	1.2643	0.02427	3.0529	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	FWALL (F)	TWALL (C)
1	10.00	1.577	0.002525	1107.9	62.3	16.8
2	9.50	1.498	0.002635	1156.4	61.0	16.1
3	9.00	1.419	0.002387	1047.4	64.2	17.9
4	8.50	1.340	0.002356	1033.8	64.7	18.2
13	7.00	1.104	0.002215	972.2	66.8	19.3
15	6.00	0.946	0.002162	1080.4	63.2	17.3
20	5.00	0.789	0.002853	1252.0	58.6	14.8
25	4.00	0.641	0.003225	1415.3	55.3	12.9
27	3.00	0.473	0.003446	1512.4	53.6	12.0
28	2.50	0.394	0.003764	1651.6	51.6	10.9
32	2.00	0.315	0.004059	1781.2	50.0	10.0
38	0.50	0.079	0.004298	1886.1	48.9	9.4
40	0.40	0.063	0.004110	1803.6	49.8	9.9
41	0.35	0.055	0.004190	1842.4	49.4	9.7
44	0.20	0.032	0.004002	1756.1	50.3	10.2
49	-0.05	-0.008	0.003713	1629.3	51.9	11.1
50	-0.10	-0.016	0.003733	1638.2	51.8	11.0
52	-0.20	-0.032	0.003716	1630.6	51.9	11.1
53	-0.25	-0.039	0.003903	1712.7	50.9	10.5
54	-0.30	-0.047	0.003338	1464.9	54.4	12.4
56	-0.40	-0.063	0.002622	1150.5	61.0	16.1
58	-0.50	-0.079	0.002404	1054.7	63.8	17.7

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ROTOR(SUCTION) L=0.0CX/U=.779

GRID IN

65% SPACING

SPANWISE HEAT TRANSFER

RUN: 71

POINT: 17

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	29.4	170.8	0.0789	0.01403	0.2690	6.341
SI	-1.4	52.1	1.2643	0.02427	3.0529	16.106

FOR UNITS SEE NOMENCLATURE

=====

S/BX = 0.31541

TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
30	4.00	66.7	0.004589	2013.9	47.7	6.7
31	3.50	58.3	0.003899	1711.0	50.8	10.5
32	3.00	50.0	0.004059	1781.2	50.0	10.0
33	2.50	41.7	0.003939	1728.7	50.6	10.3
34	2.00	33.3	0.004180	1834.2	49.4	9.7

=====

S/BX = 0.78852

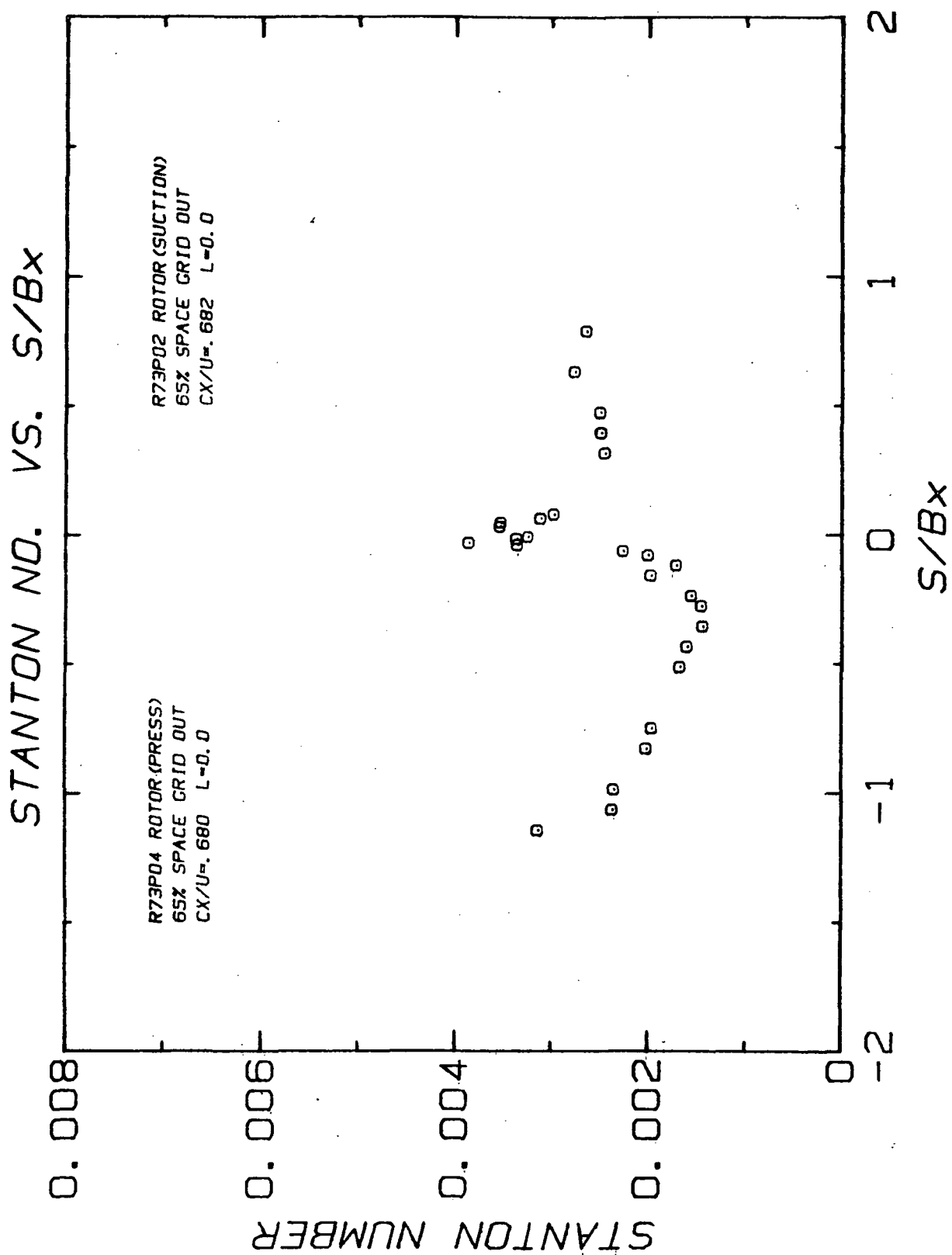
TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
17	4.50	75.0	0.003968	1741.4	50.5	10.3
18	4.00	66.7	0.002790	1224.4	59.2	15.1
19	3.50	58.3	0.002888	1267.3	58.2	14.6
20	3.00	50.0	0.002853	1252.0	58.6	14.8
21	2.50	41.7	0.002990	1315.5	57.2	14.0
22	2.00	33.3	0.002814	1235.0	59.0	15.0
23	1.50	25.0	0.003781	1659.4	51.5	10.9

=====

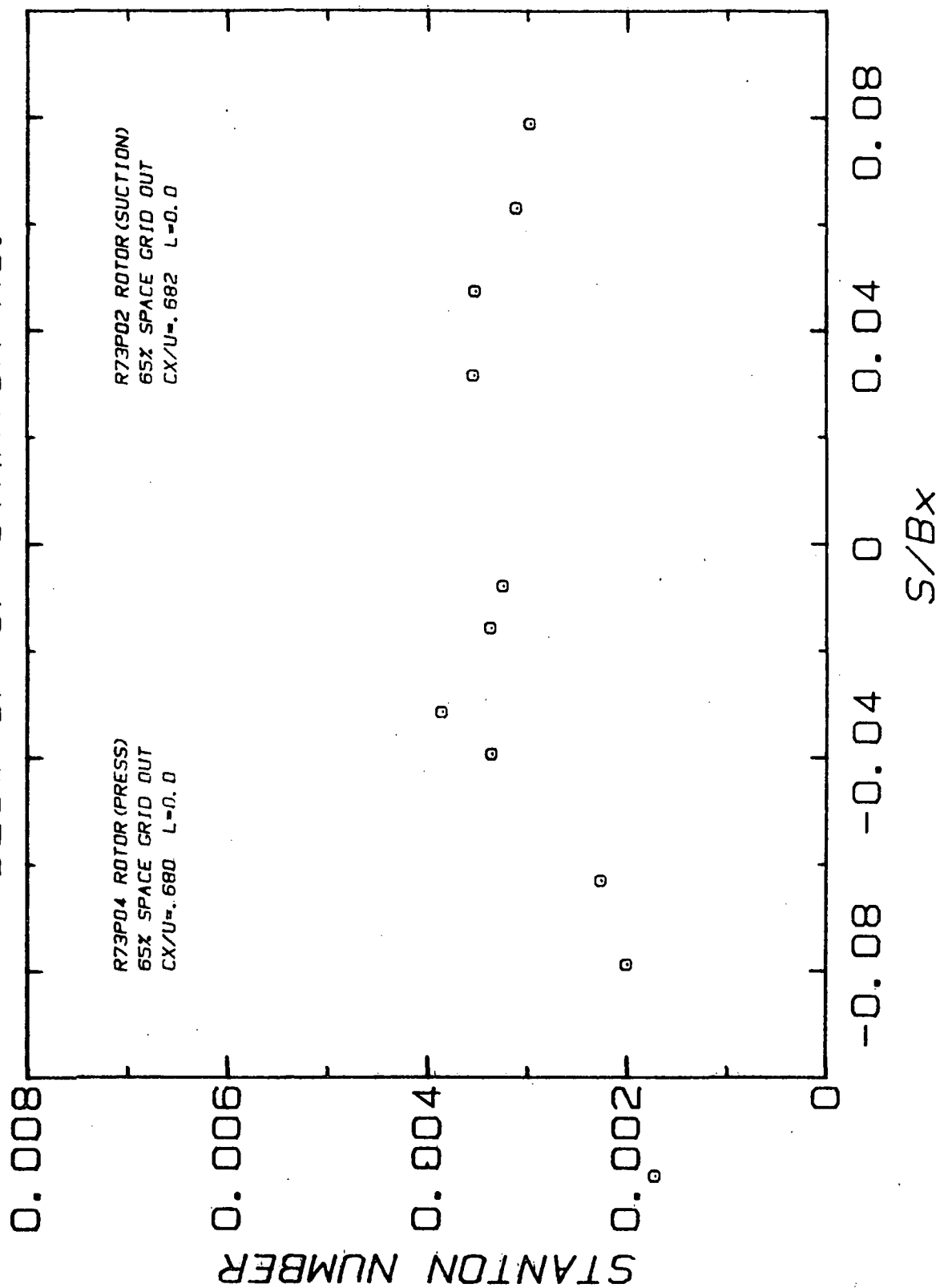
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TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
5	4.50	75.0	0.003808	1671.0	51.5	10.9
6	4.00	66.7	0.003328	1460.4	54.7	12.6
7	3.50	58.3	0.002464	1081.3	63.2	17.3
9	2.50	41.7	0.002290	1008.5	65.5	18.6
10	2.00	33.3	0.003064	1344.5	56.8	13.8
11	1.50	25.0	0.004903	2151.7	46.7	8.2

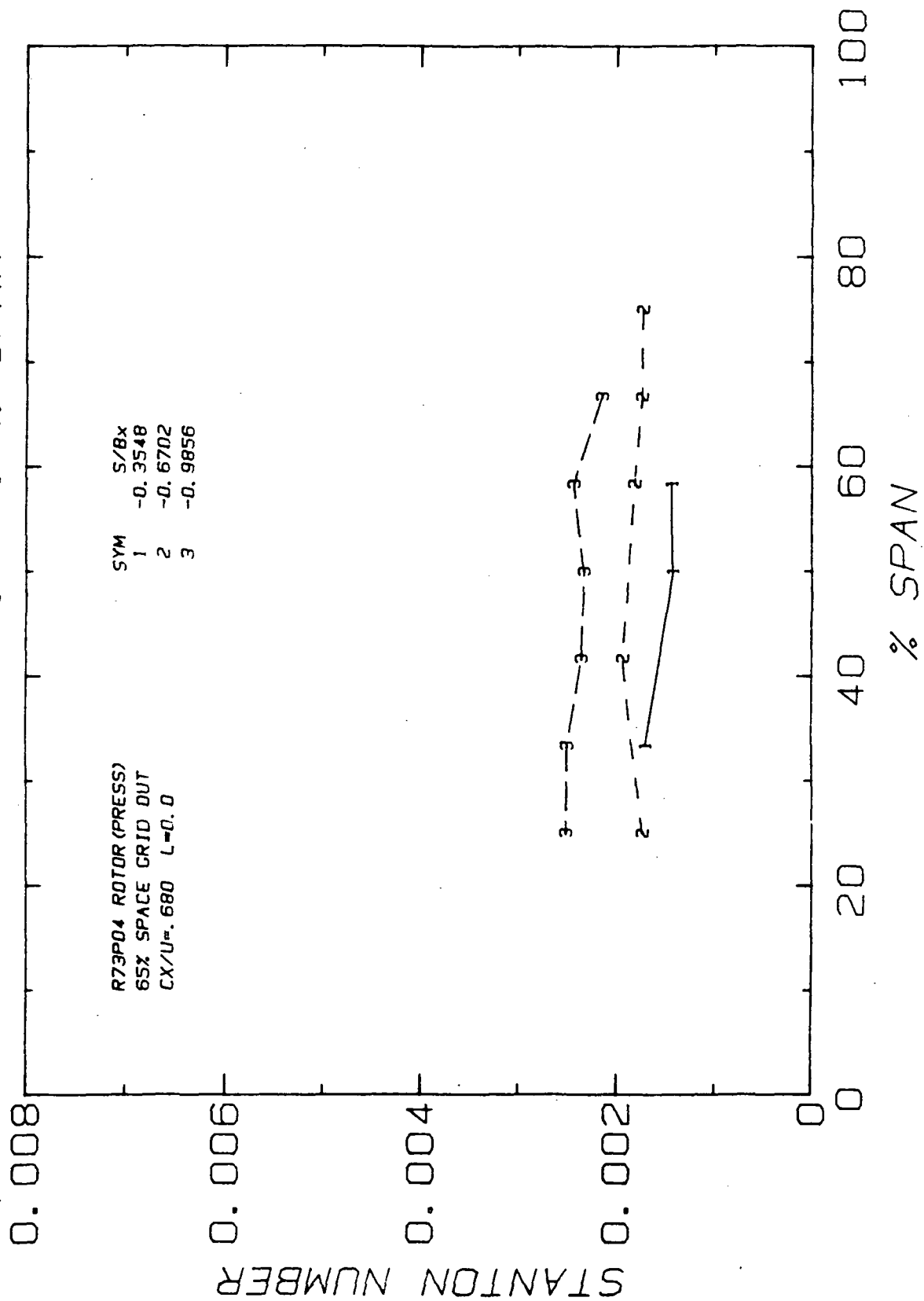
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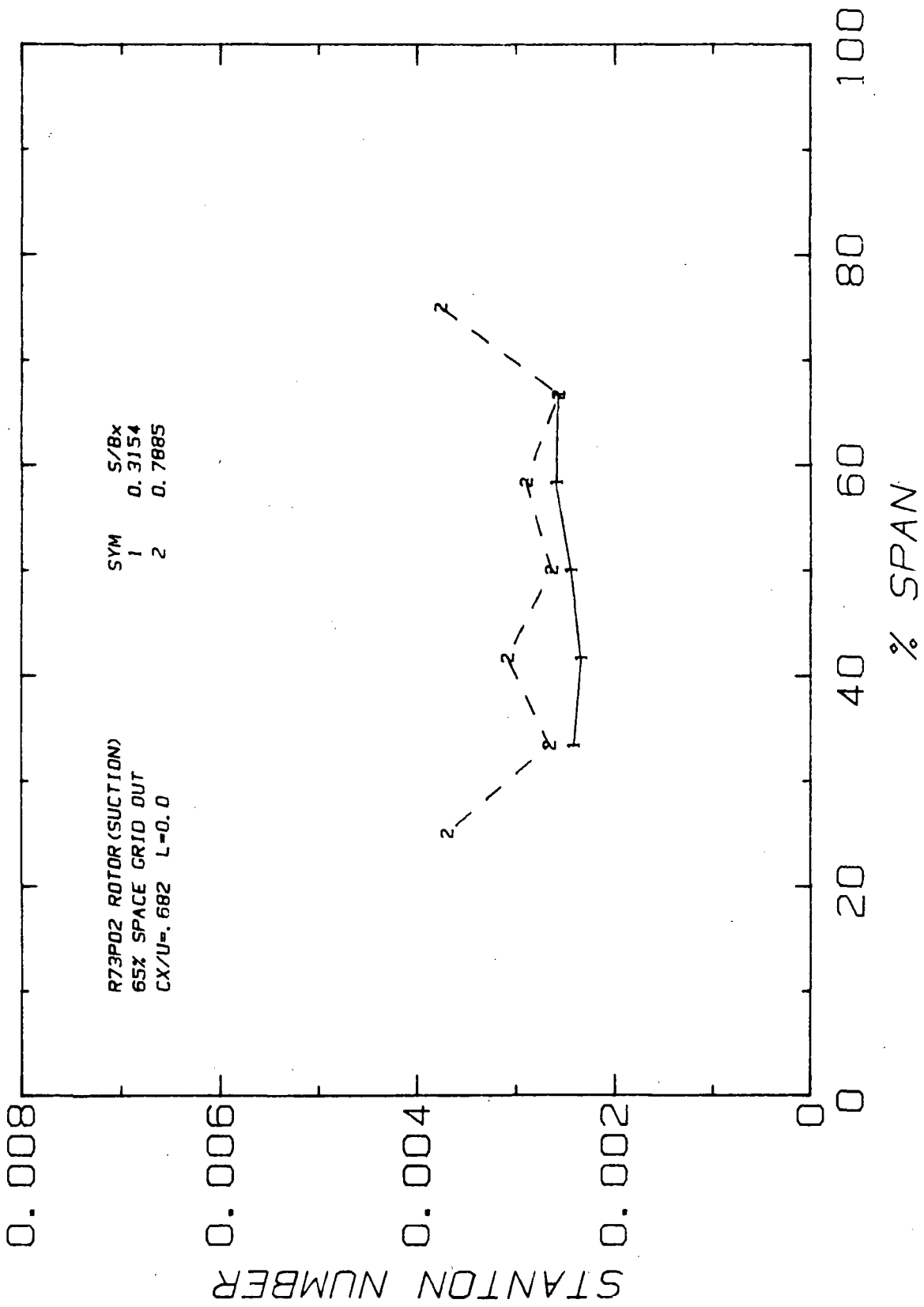
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



ROTOR(PRESSURE) L=0 CX/U=.680

GRID OUT

65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 73 POINT: 4

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	37.5	171.6	0.0766	0.01924	0.1220	6.341
SI	3.0	52.3	1.2278	0.02463	2.5195	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
42	0.30	0.047	0.003513	1481.8	57.8	14.3
59	-0.75	-0.110	0.001692	713.8	78.5	25.8
60	-1.00	-0.158	0.001962	827.6	73.1	22.8
62	-1.50	-0.247	0.001545	651.8	82.3	27.9
63	-1.75	-0.276	0.001440	607.3	85.4	29.7
67	-2.25	-0.355	0.001426	601.3	85.9	29.9
71	-2.75	-0.434	0.001587	669.6	81.2	27.3
72	-3.25	-0.513	0.001661	700.6	79.3	26.3
81	-4.75	-0.749	0.001944	820.1	73.5	23.1
82	-5.25	-0.828	0.002000	843.6	72.6	22.6
87	-6.25	-0.986	0.002346	985.3	67.9	19.9
91	-6.75	-1.065	0.002355	993.4	67.7	19.8
92	-7.25	-1.143	0.003122	1316.9	60.6	15.9

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SPANWISE HEAT TRANSFER

RUN: 73 POINT: 4

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	MX
ENGLISH	37.5	171.6	0.0766	0.01424	0.2220	6.341
SI	3.0	52.3	1.2278	0.02463	2.5195	16.106

FOR UNITS SEE NOMENCLATURE

=====						
S/BX = -0.35483						
TC#	Y	Z SPAN	ST	NU	TWALL	TWALL
	(IN.)				(F)	(C)
66	3.50	58.3	0.001440	607.6	85.4	29.7
67	3.00	50.0	0.001426	601.3	85.9	29.9
69	2.00	33.3	0.001704	718.9	78.3	25.7
=====						
S/BX = -0.67024						
TC#	Y	Z SPAN	ST	NU	TWALL	TWALL
	(IN.)				(F)	(C)
74	4.50	75.0	0.001737	732.5	77.6	25.3
75	4.00	66.7	0.001748	737.3	77.4	25.2
76	3.50	58.3	0.001821	768.0	75.8	24.4
78	2.50	41.7	0.001939	818.0	73.6	23.1
80	1.50	25.0	0.001738	733.2	77.6	25.3
=====						
S/BX = -0.98565						
TC#	Y	Z SPAN	ST	NU	TWALL	TWALL
	(IN.)				(F)	(C)
85	4.00	66.7	0.002157	909.8	70.3	21.3
86	3.50	58.3	0.002441	1029.6	66.6	19.2
87	3.00	50.0	0.002336	985.3	67.9	19.9
88	2.50	41.7	0.002363	996.6	67.5	19.7
89	2.00	33.3	0.002503	1055.9	65.9	18.8
90	1.50	25.0	0.002518	1062.1	65.7	18.7

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ROTOR(SUCTION) L=0 CX/U-.582 GRID OUT 80% SPACING

MIDSPAN HEAT TRANSFER

RUN: 73 POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	U-NOM	BX
ENGLISH	38.8	171.8	0.0765	0.01427	0.2420	6.341
SI	3.8	52.4	1.2262	0.02468	2.7465	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
20	5.00	0.789	0.002637	1109.6	67.5	19.7
25	4.00	0.631	0.002763	1162.3	66.2	19.0
27	3.00	0.473	0.002494	1049.4	69.1	20.6
28	2.50	0.394	0.002481	1043.8	69.2	20.7
32	2.00	0.315	0.002442	1027.4	69.7	20.9
38	0.50	0.079	0.002975	1251.5	64.2	17.9
40	0.40	0.063	0.003113	1309.8	63.1	17.3
44	0.20	0.032	0.003543	1490.4	60.2	15.7
49	-0.05	-0.008	0.003244	1364.7	62.2	16.8
50	-0.10	-0.016	0.003371	1413.1	61.3	16.3
52	-0.20	-0.032	0.003862	1624.6	58.5	14.7
53	-0.25	-0.039	0.003360	1413.5	61.4	16.3
56	-0.40	-0.063	0.002257	949.4	72.0	22.2
58	-0.50	-0.079	0.001999	840.8	76.1	24.5

ORIGINAL PAGE IS
OF POOR QUALITY

ROTOR(SUCTION) L=0 CX/U=.682 GRID OUT 55% SPACING

SPANWISE HEAT TRANSFER

RUN: 73 POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	HX
ENGLISH	38.8	171.8	0.0765	0.01427	0.2420	6.341
SI	3.8	52.4	1.2262	0.02468	2.7465	16.106

FOR UNITS SEE NOMENCLATURE

=====

S/BX = 0.31541

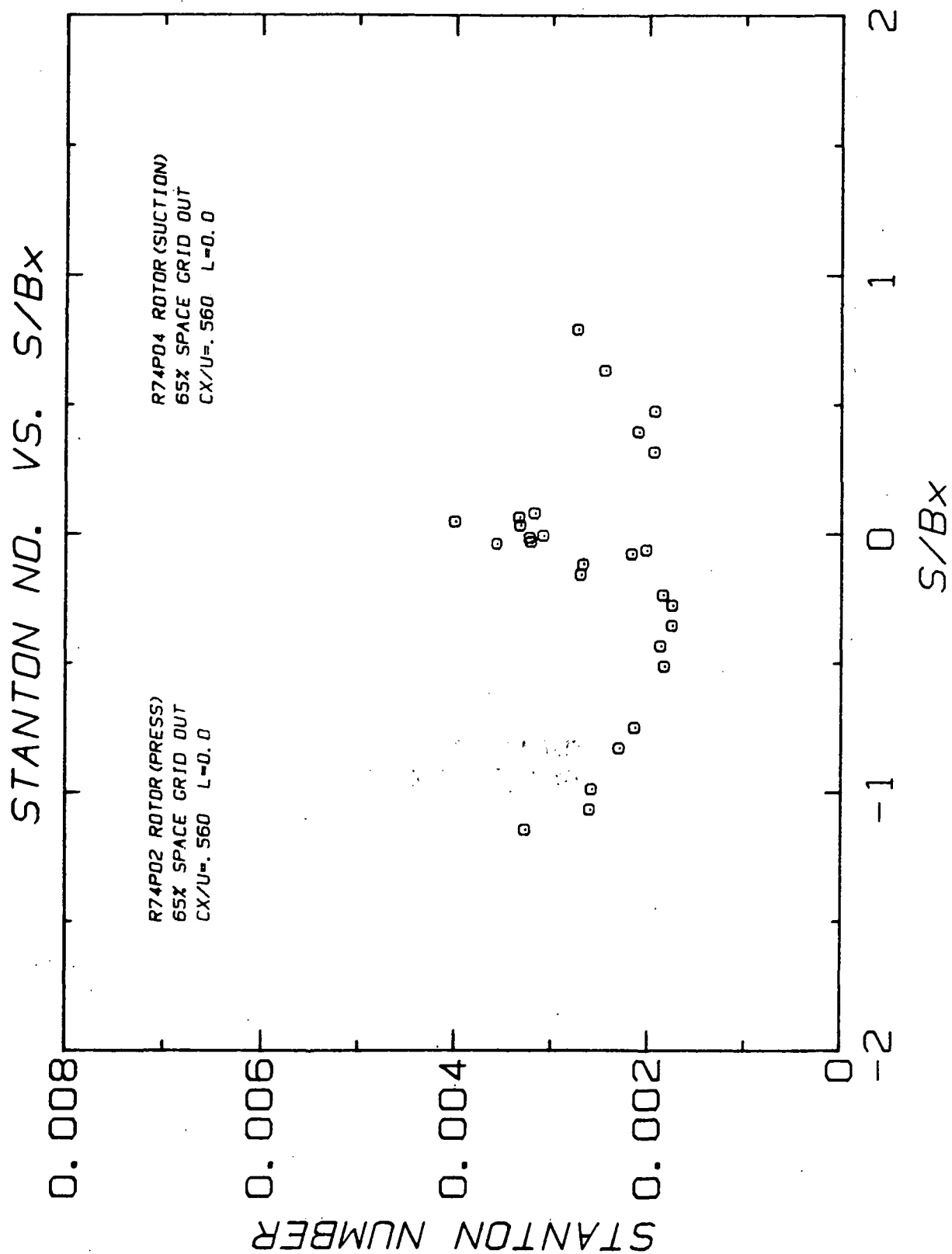
TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
30	4.00	66.7	0.002566	1079.7	68.2	20.1
31	3.50	58.3	0.002590	1089.8	67.9	20.0
32	3.00	50.0	0.002442	1027.4	69.7	20.9
33	2.50	41.7	0.002336	982.8	71.0	21.7
34	2.00	33.3	0.002416	1016.6	70.0	21.1

=====

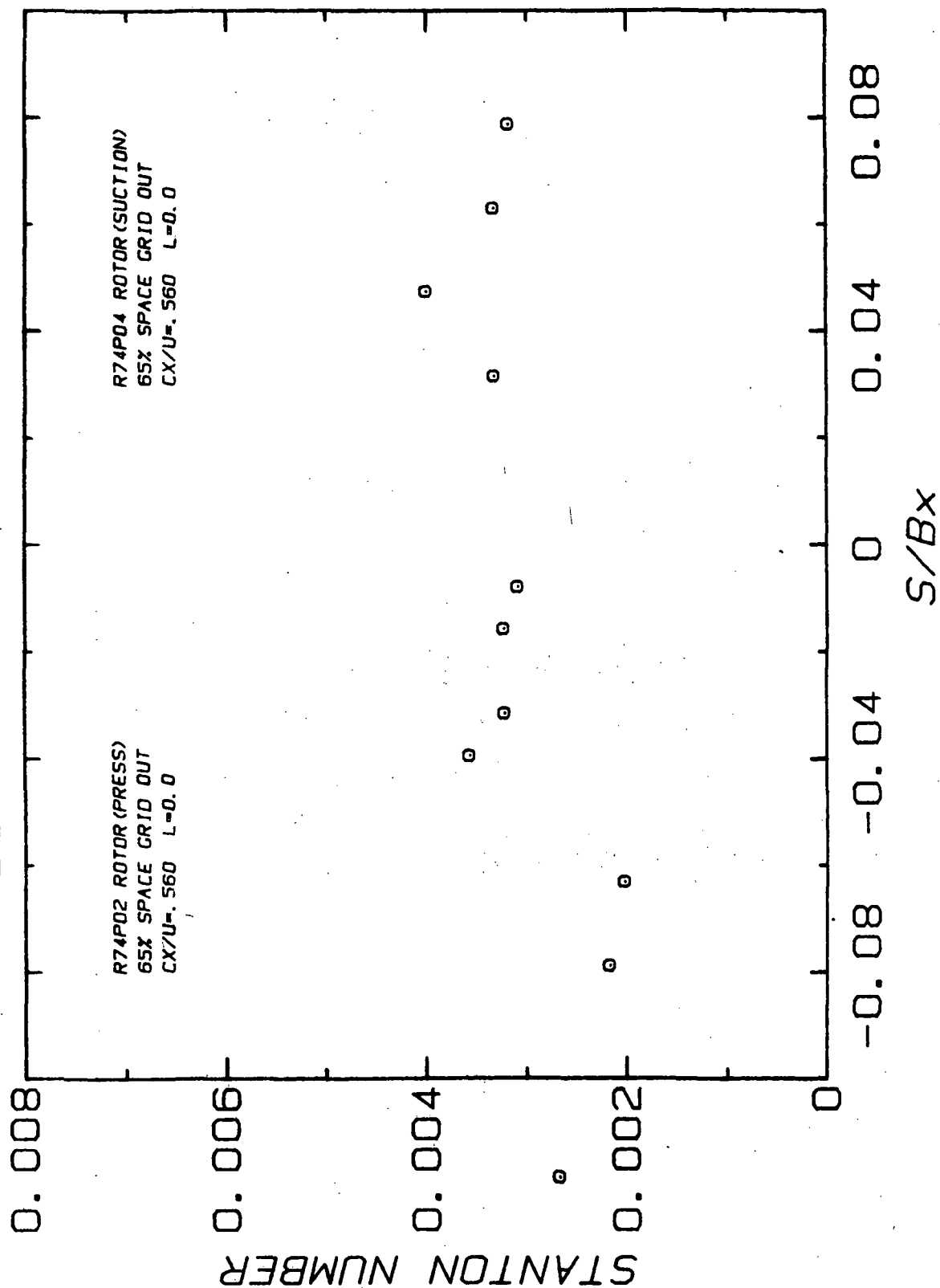
S/BX = 0.78852

TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
17	4.50	75.0	0.003758	1581.0	59.1	15.1
18	4.00	66.7	0.002567	1080.1	68.3	20.2
19	3.50	58.3	0.002895	1218.0	65.0	18.3
20	3.00	50.0	0.002637	1109.6	67.5	19.7
21	2.50	41.7	0.003086	1298.5	63.4	17.5
22	2.00	33.3	0.002658	1118.2	67.3	19.6
23	1.50	25.0	0.003692	1553.3	59.5	15.3

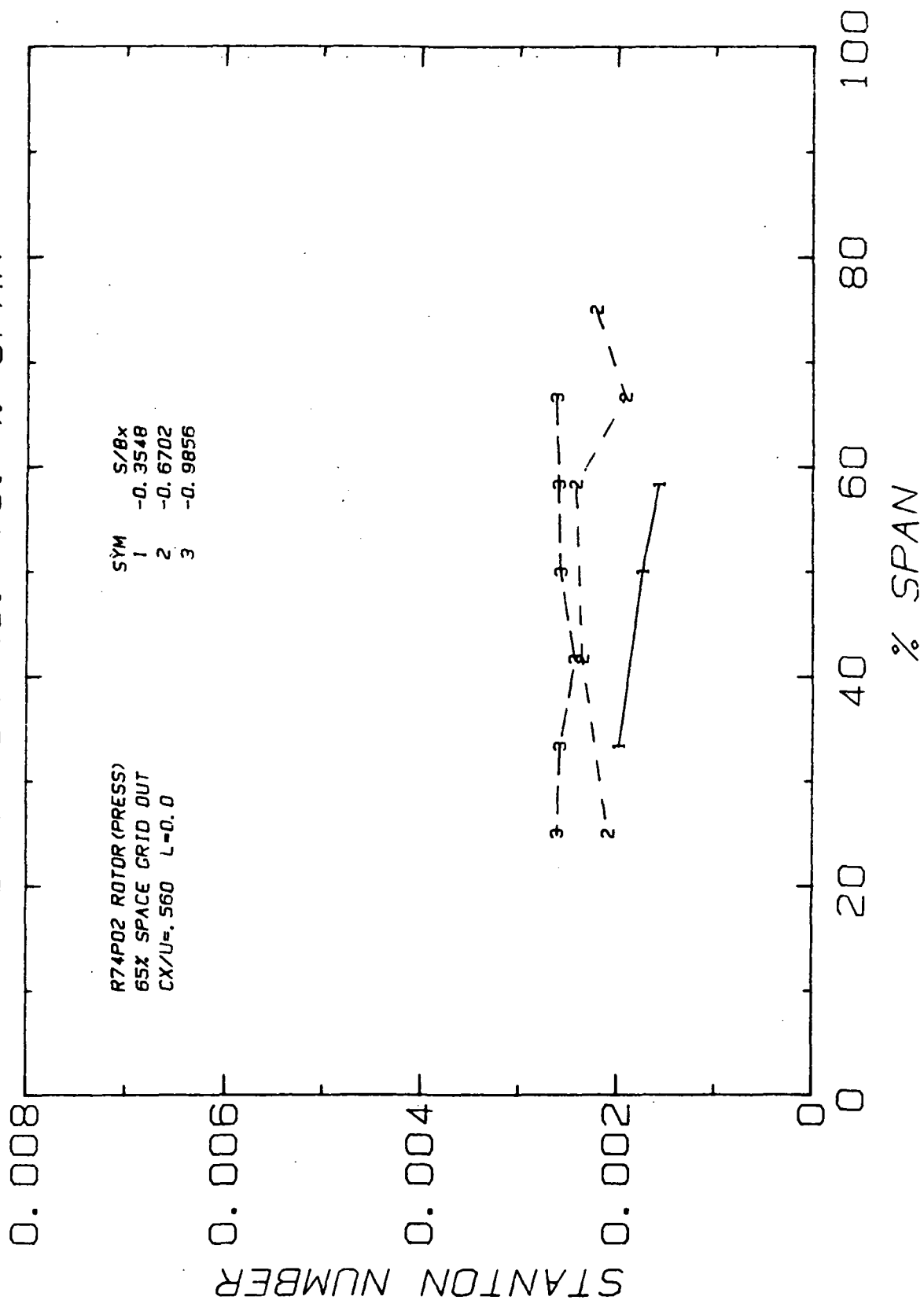
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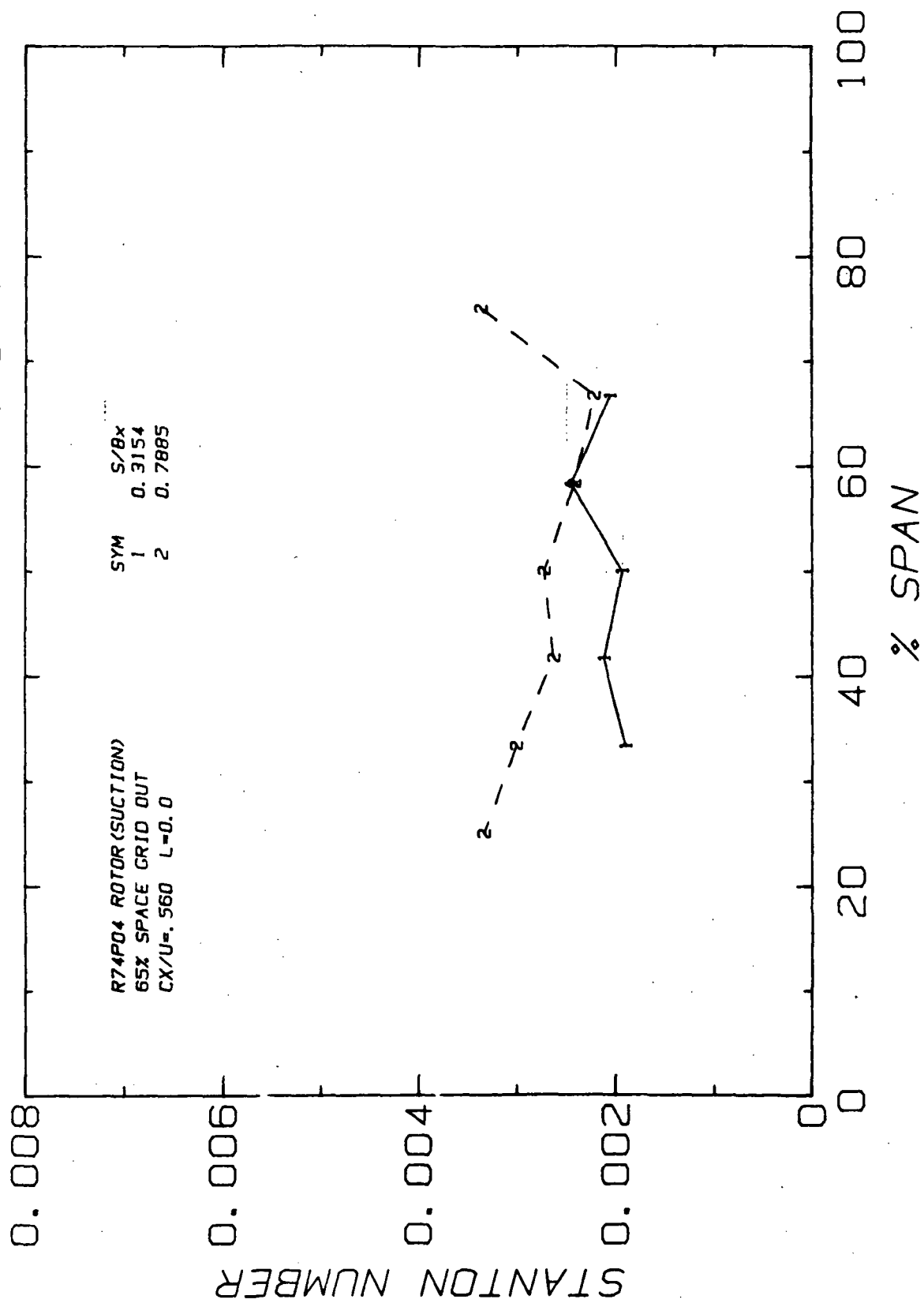
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



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OF POOR QUALITY

ROTOR(PRESSURE) L=0 CX/U=.560 GRID OUT 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 74 POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NON	BX
ENGLISH	25.6	171.9	0.0787	0.01392	0.2480	6.341
SI	-3.5	52.4	1.2601	0.02408	2.8146	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
42	0.30	0.047	0.003989	1769.2	45.1	7.3
59	-0.75	-0.118	0.002463	1181.0	54.4	12.5
60	-1.00	-0.158	0.002690	1192.9	54.1	12.3
62	-1.50	-0.237	0.001836	814.5	66.0	19.4
63	-1.75	-0.276	0.001738	771.0	69.1	20.6
67	-2.25	-0.355	0.001741	772.2	69.0	20.6
71	-2.75	-0.434	0.001857	823.8	66.4	19.1
72	-3.25	-0.513	0.001822	808.2	67.2	19.5
81	-4.75	-0.749	0.002130	744.6	61.5	16.4
82	-5.25	-0.828	0.002292	1016.5	59.1	15.0
87	-6.25	-0.986	0.002574	1141.5	55.7	13.2
91	-6.75	-1.065	0.002592	1149.5	55.6	13.1
92	-7.25	-1.143	0.003250	1445.0	49.7	9.9

SPANWISE HEAT TRANSFER

RUN: 74

POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	25.6	171.9	0.0787	0.01392	0.2480	6.341
SI	-3.5	52.4	1.2601	0.02408	2.8146	16.106

FOR UNITS SEE NOMENCLATURE

=====

S/BX = -0.35483

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
66	3.50	58.3	0.001569	695.9	73.6	23.1
67	3.00	50.0	0.001741	772.2	69.0	20.6
69	2.00	33.3	0.001982	878.9	63.9	17.7

=====

S/BX = -0.67024

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
74	4.50	75.0	0.002215	982.6	60.1	15.6
75	4.00	66.7	0.001918	850.6	65.2	18.5
76	3.50	58.3	0.002419	1073.1	57.3	14.0
78	2.50	41.7	0.002353	1043.8	58.1	14.5
80	1.50	25.0	0.002088	926.3	62.1	16.7

=====

S/BX = -0.98565

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
85	4.00	66.7	0.002619	1161.6	55.2	12.9
86	3.50	58.3	0.002591	1149.3	55.5	13.0
87	3.00	50.0	0.002574	1141.5	55.7	13.2
88	2.50	41.7	0.002427	1076.5	57.4	14.1
89	2.00	33.3	0.002581	1144.7	55.6	13.1
90	1.50	25.0	0.002610	1157.6	55.3	12.9

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ROTOR(SUCTION) L=0 CX/U=.560 GRID OUT 35% SPACING

MIDSPAN HEAT TRANSFER

RUN: 74 POINT: 4

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	26.1	172.0	0.0786	0.01494	0.2440	6.341
SI	-3.3	52.4	1.2590	0.02411	2.7692	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
20	5.00	0.789	0.002728	1208.1	53.3	11.8
25	4.00	0.631	0.002443	1081.0	56.3	13.5
27	3.00	0.473	0.001926	853.0	64.1	17.9
28	2.50	0.394	0.002098	920.9	61.1	16.2
32	2.00	0.315	0.001932	855.5	64.0	17.8
38	0.50	0.079	0.003173	1405.2	47.5	9.7
40	0.40	0.063	0.003330	1474.8	48.4	9.1
44	0.20	0.032	0.003320	1470.1	48.5	9.2
49	-0.05	-0.008	0.003081	1364.3	50.2	10.1
50	-0.10	-0.016	0.003223	1427.2	49.2	9.5
52	-0.20	-0.032	0.003208	1420.5	49.3	9.6
53	-0.25	-0.039	0.003563	1577.8	47.0	8.3
56	-0.40	-0.063	0.002015	892.3	62.4	16.9
58	-0.50	-0.079	0.002167	959.7	60.0	15.5

ROTOR(SUCTION) L=0 CX/U=.560

GRID OUT 65% SPACING

SPANWISE HEAT TRANSFER

RUN: 74 POINT: 4

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	MX
ENGLISH	26.1	172.0	0.0786	0.01394	0.2440	5.341
SI	-3.3	52.4	1.2590	0.02411	2.7692	16.106

FOR UNITS SEE NOMENCLATURE.

=====

S/BX = 0.31541

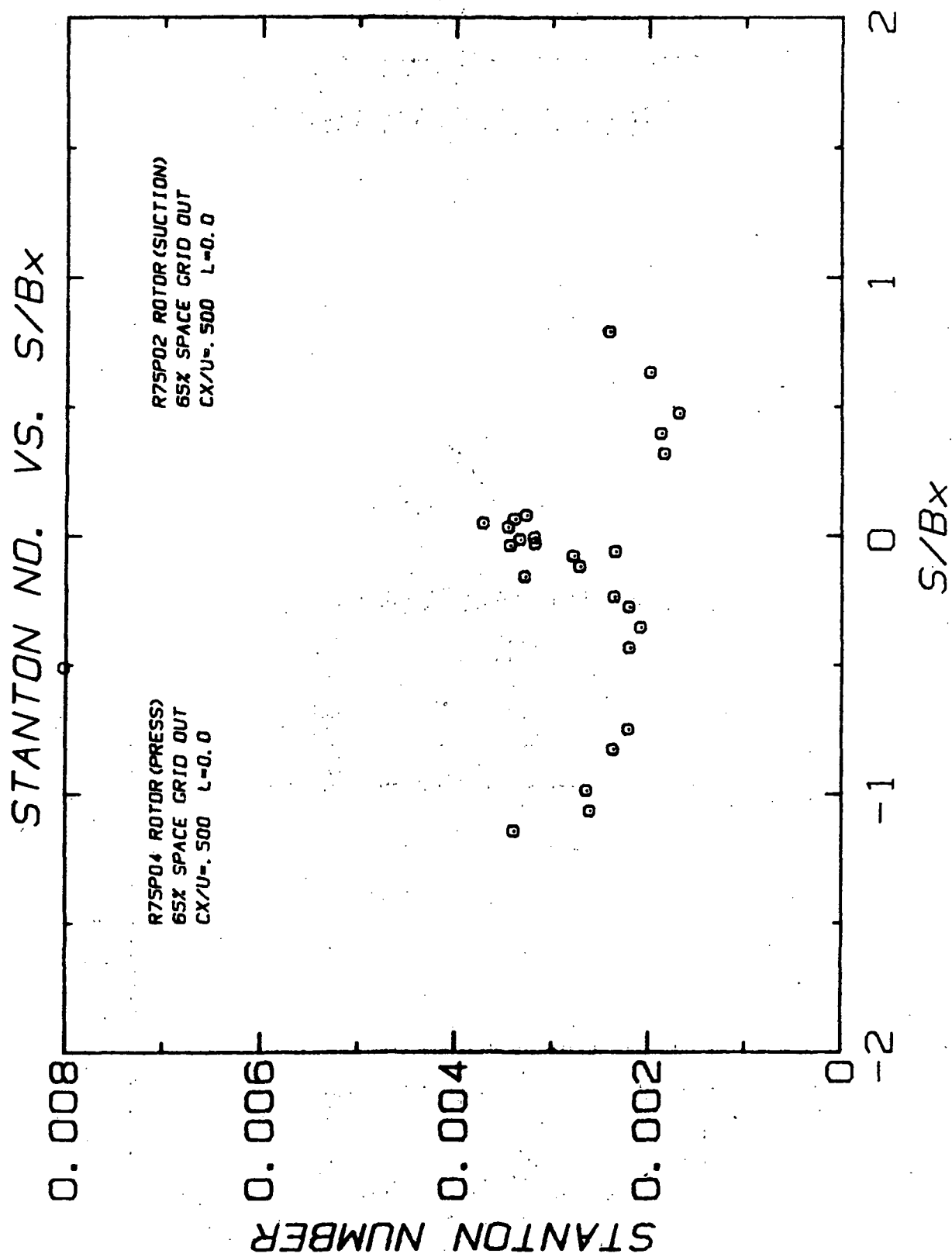
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
30	4.00	66.7	0.002059	911.8	61.7	16.5
31	3.50	58.3	0.002454	1086.0	56.1	13.4
32	3.00	50.0	0.001932	855.5	64.0	17.8
33	2.50	41.7	0.002116	937.0	60.8	16.0
34	2.00	33.3	0.001897	839.9	64.7	18.1

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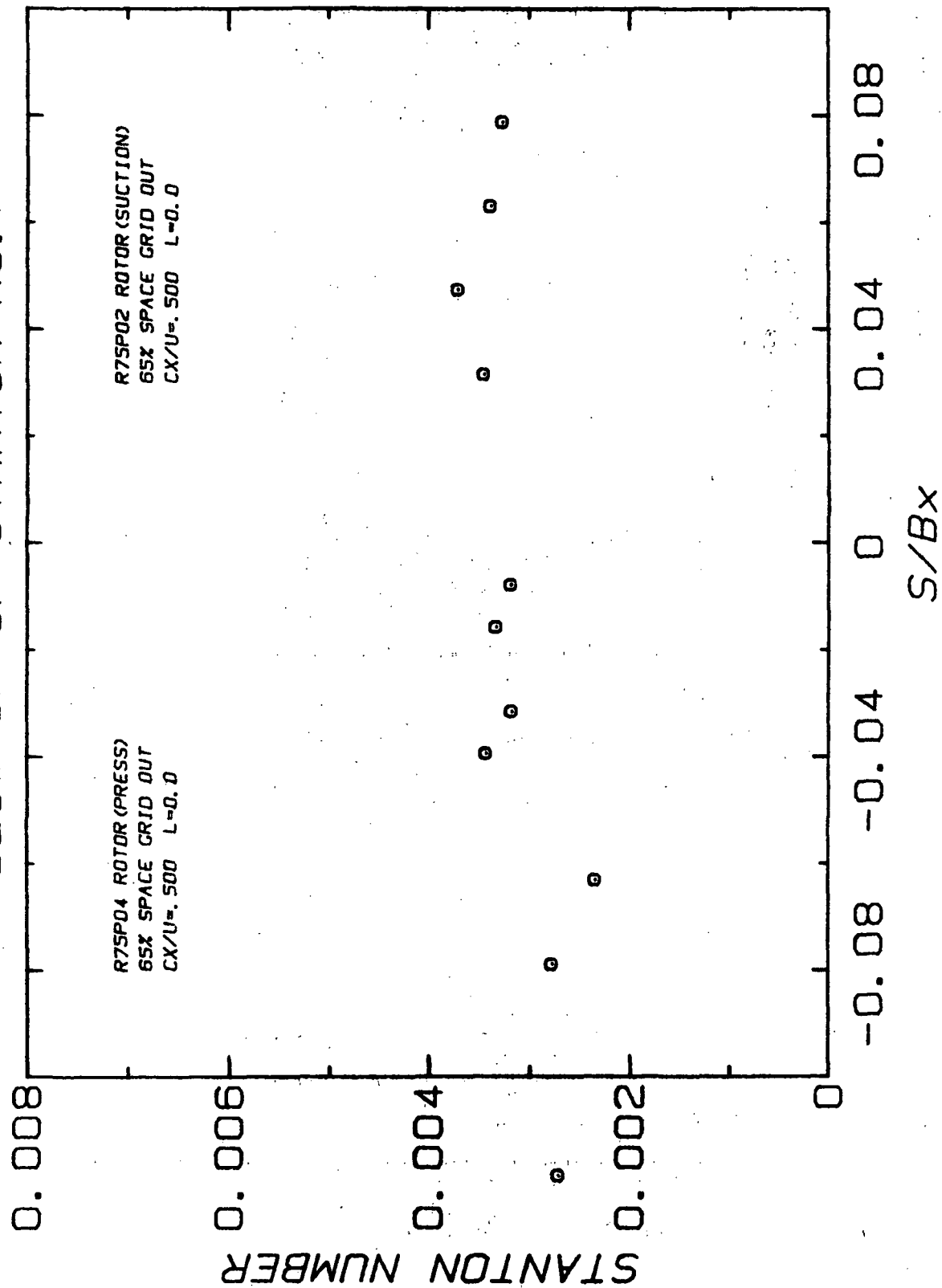
S/BX = 0.78852

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
17	4.50	75.0	0.003374	1424.2	48.2	9.0
18	4.00	66.7	0.002224	785.0	59.2	15.1
19	3.50	58.3	0.002423	1072.8	56.6	13.7
20	3.00	50.0	0.002728	1208.1	53.3	11.8
21	2.50	41.7	0.002628	1163.6	54.3	12.4
22	2.00	33.3	0.003011	1333.5	50.8	10.4
23	1.50	25.0	0.003335	1476.9	48.4	9.1

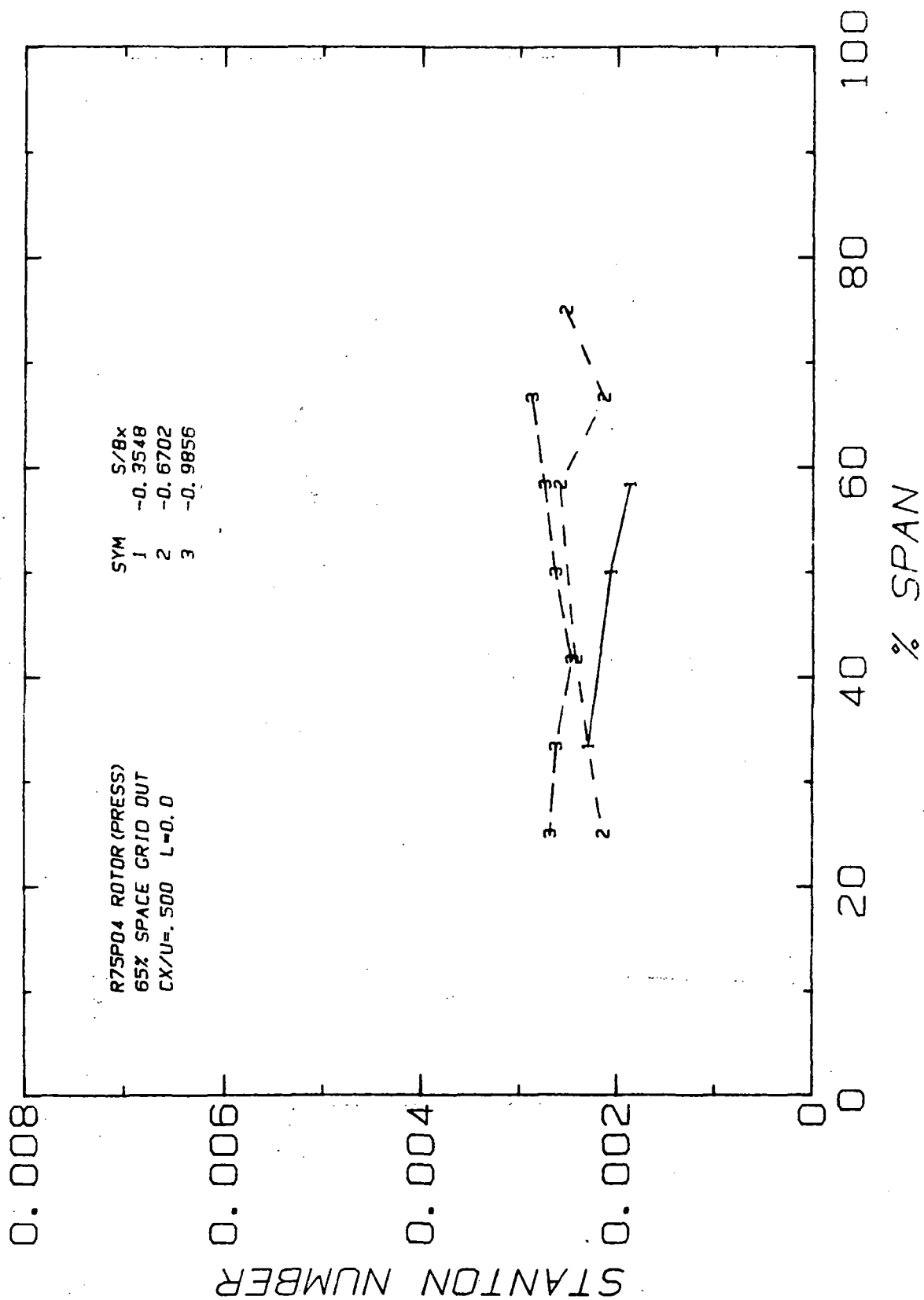
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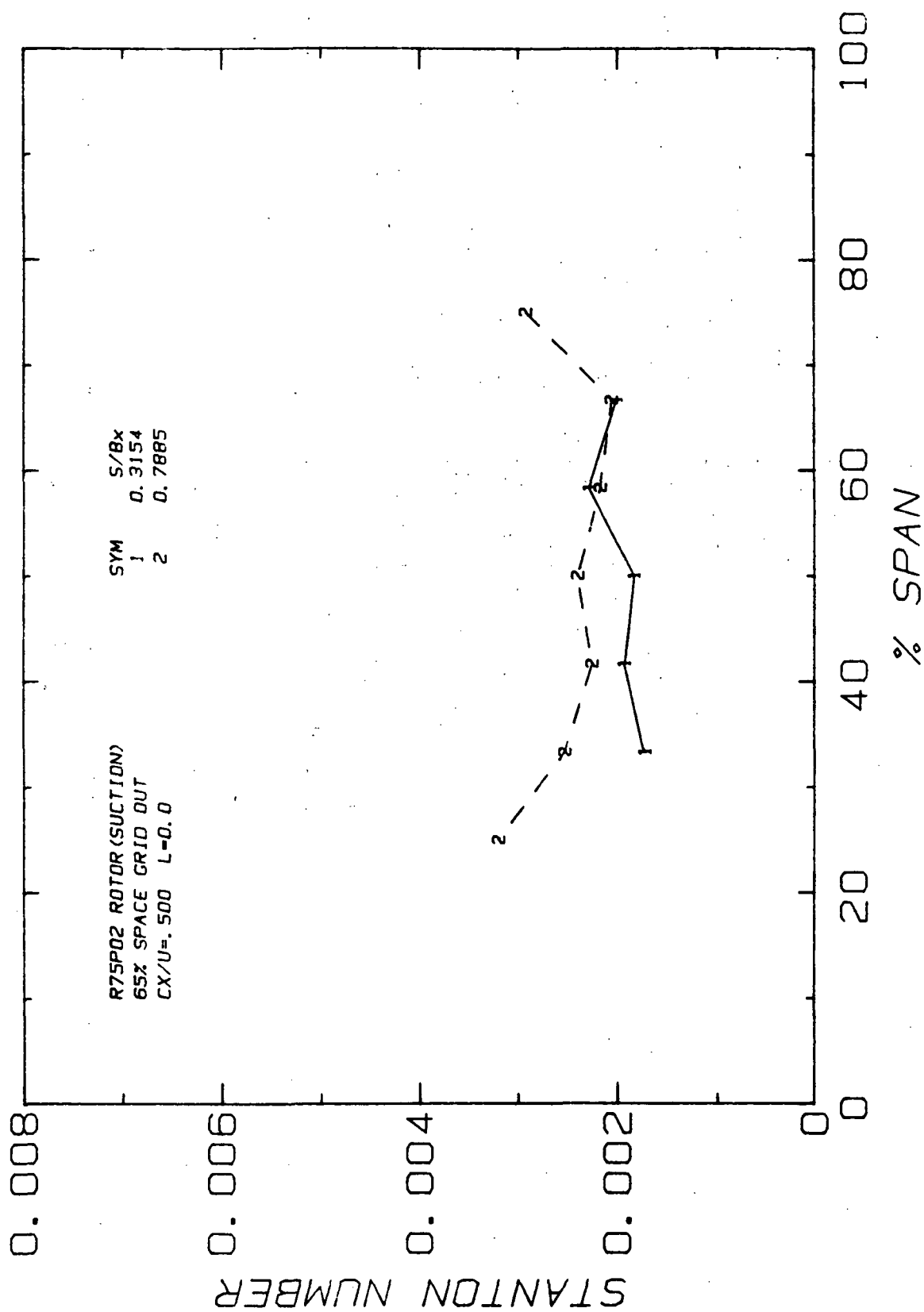
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



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ROTOR(PRESSURE) L=0 CX/U=.500 GRID OUT 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 75 POINT: 4

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	RX
ENGLISH	26.3	172.4	0.0784	0.01396	0.2480	6.341
SI	-3.1	52.6	1.2558	0.02415	2.7011	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
42	0.30	0.047	0.003697	1634.6	46.3	7.9
59	-0.75	-0.118	0.002699	1193.3	53.4	11.9
60	-1.00	-0.158	0.003268	1444.7	48.7	9.3
62	-1.50	-0.237	0.002343	1036.0	57.3	14.0
63	-1.75	-0.276	0.002190	968.2	59.4	15.2
67	-2.25	-0.355	0.002067	914.1	61.3	16.3
71	-2.75	-0.434	0.002189	967.9	59.4	15.2
72	-3.25	-0.513	999.000000*****	999.0	537.2	
81	-4.75	-0.749	0.002194	969.9	59.5	15.3
82	-5.25	-0.828	0.002354	1040.0	57.4	14.1
87	-6.25	-0.986	0.002630	1162.9	54.4	12.4
91	-6.75	-1.065	0.002598	1148.0	54.8	12.7
92	-7.25	-1.143	0.003381	1494.6	48.5	9.2

ROTOR(PRESSURE) L=0 CX/U=.500

GRID OUT

65% SPACING

SPANWISE HEAT TRANSFER

RUN: 75

POINT: 4

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	RX
ENGLISH	26.3	172.4	0.0784	0.01396	0.2380	6.341
SI	-3.1	52.6	1.2558	0.02415	2.7011	16.106

FOR UNITS SEE NOMENCLATURE

=====						
S/BX = -0.35483						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
66	3.50	58.3	0.001863	823.7	65.0	18.3
67	3.00	50.0	0.002067	914.1	61.3	16.3
69	2.00	33.3	0.002293	1013.6	57.9	14.4
=====						
S/BX = -0.67024						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
74	4.50	75.0	0.002527	1117.3	55.2	12.9
75	4.00	66.7	0.002134	943.3	60.3	15.7
76	3.50	58.3	0.002585	1143.0	54.6	12.5
78	2.50	41.7	0.002425	1072.3	56.4	13.5
80	1.50	25.0	0.002140	946.2	60.2	15.7
=====						
S/BX = -0.98565						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
85	4.00	66.7	0.002875	1271.2	52.0	11.1
86	3.50	58.3	0.002740	1211.6	53.3	11.8
87	3.00	50.0	0.002630	1162.9	54.4	12.4
88	2.50	41.7	0.002465	1087.9	56.2	13.4
89	2.00	33.3	0.002622	1159.2	54.4	12.5
90	1.50	25.0	0.002683	1186.1	53.8	12.1

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ROTOR(SUCTION) L=0 CX/U=.500 GRID OUT 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 75 POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	KX
ENGLISH	26.9	172.1	0.0784	0.01396	0.2600	6.341
SI	-2.8	52.5	1.2560	0.02415	2.9507	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
20	5.00	0.789	0.002402	1059.9	59.8	15.5
25	4.00	0.631	0.001979	873.5	66.6	19.2
27	3.00	0.473	0.001679	741.1	73.4	23.0
28	2.50	0.394	0.001870	825.2	68.0	20.5
32	2.00	0.315	0.001832	808.5	69.6	20.9
38	0.50	0.079	0.003261	1439.3	51.3	10.7
40	0.40	0.063	0.003383	1493.1	50.5	10.3
44	0.20	0.032	0.003448	1521.9	50.0	10.0
49	-0.05	-0.008	0.003177	1402.0	51.9	11.1
50	-0.10	-0.016	0.003329	1459.3	50.0	10.5
52	-0.20	-0.032	0.003168	1398.2	52.0	11.1
53	-0.25	-0.039	0.003430	1513.9	50.1	10.1
56	-0.40	-0.063	0.002337	1031.4	60.6	15.9
58	-0.50	-0.079	0.002773	1224.0	55.5	13.0

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ROTOR(SUCTION) L=0 CX/U=.500 GRID OUT 65% SPACING

SPANWISE HEAT TRANSFER RUN: 75 POINT: 2

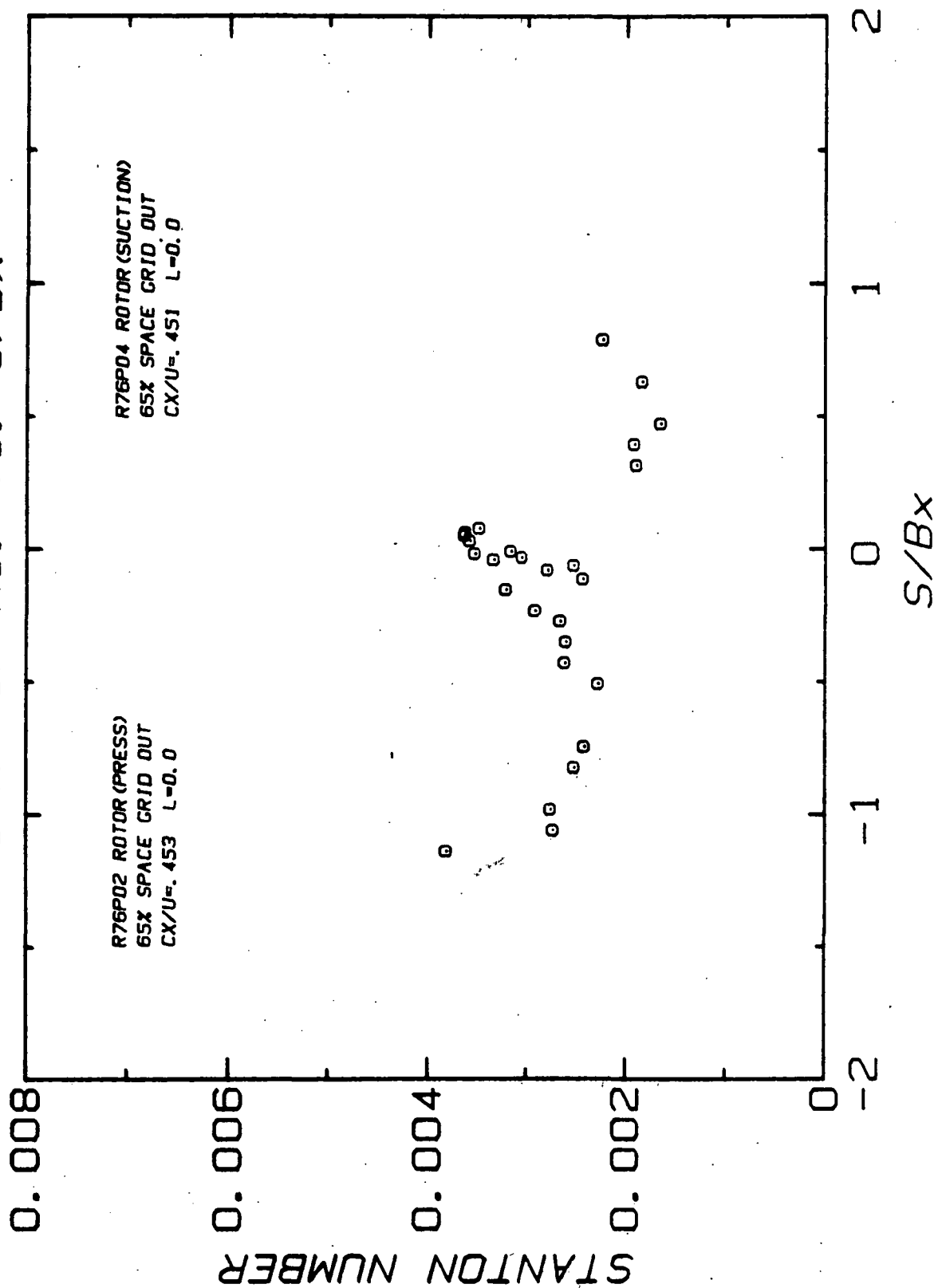
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ENGLISH	26.9	172.1	0.0784	0.01396	0.2600	6.341
SI	-2.8	52.5	1.2560	0.02415	2.9507	16.106

FOR UNITS SEE NOMENCLATURE

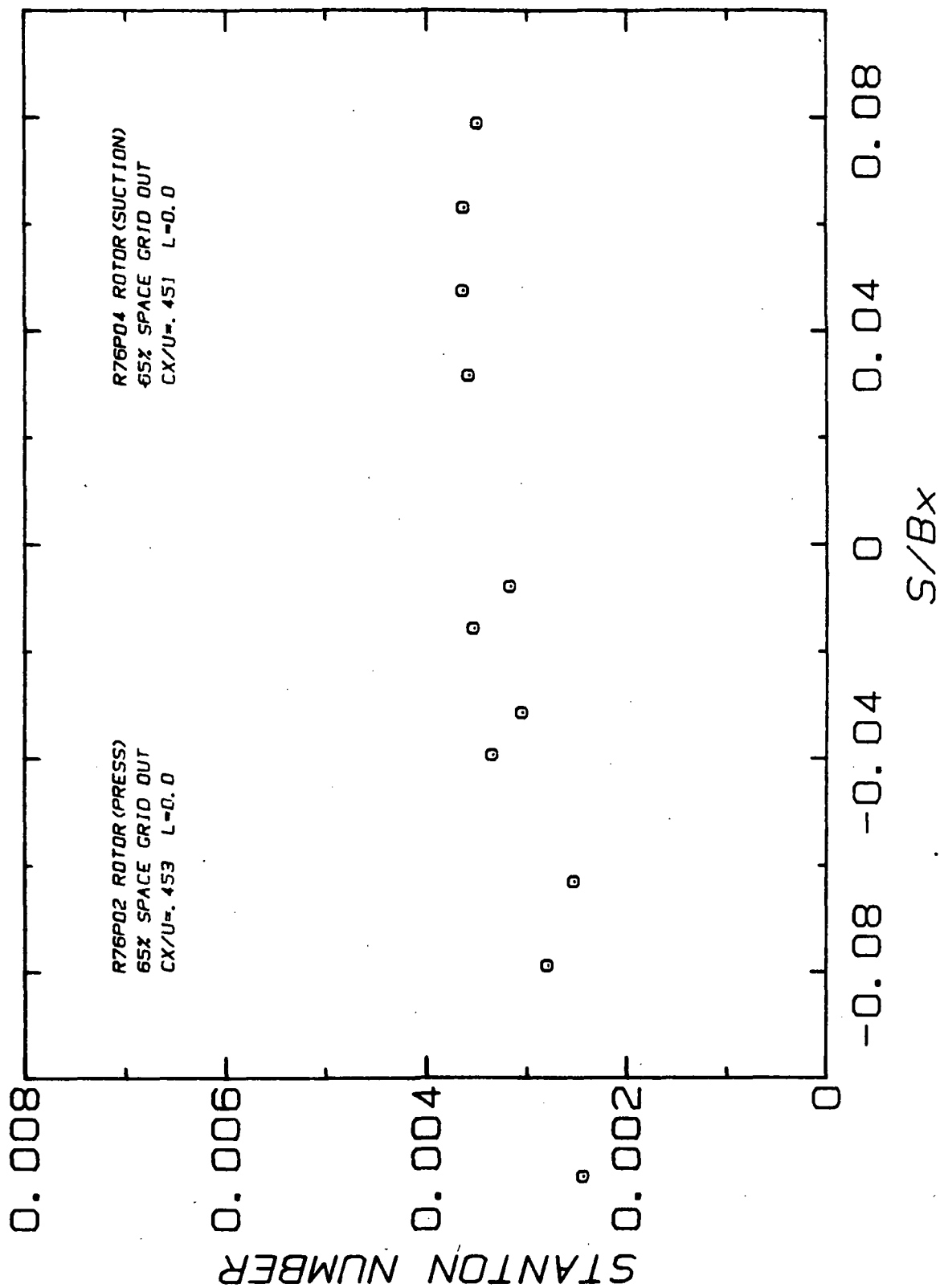
=====						
S/BX = 0.31541						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
30	4.00	66.7	0.002007	885.7	66.0	18.9
31	3.50	58.3	0.002289	1010.1	61.3	16.3
32	3.00	50.0	0.001832	808.5	49.6	20.9
33	2.50	41.7	0.001931	852.3	67.5	19.7
34	2.00	33.3	0.001727	762.4	72.1	22.3
=====						
S/BX = 0.78852						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
17	4.50	75.0	0.002924	1290.3	54.1	12.3
18	4.00	66.7	0.002055	907.1	65.2	18.4
19	3.50	58.3	0.002172	958.8	63.2	17.3
20	3.00	50.0	0.002402	1059.9	59.8	15.5
21	2.50	41.7	0.002253	974.5	61.9	16.6
22	2.00	33.3	0.002533	1117.8	58.2	14.5
23	1.50	25.0	0.003201	1412.7	51.0	11.0

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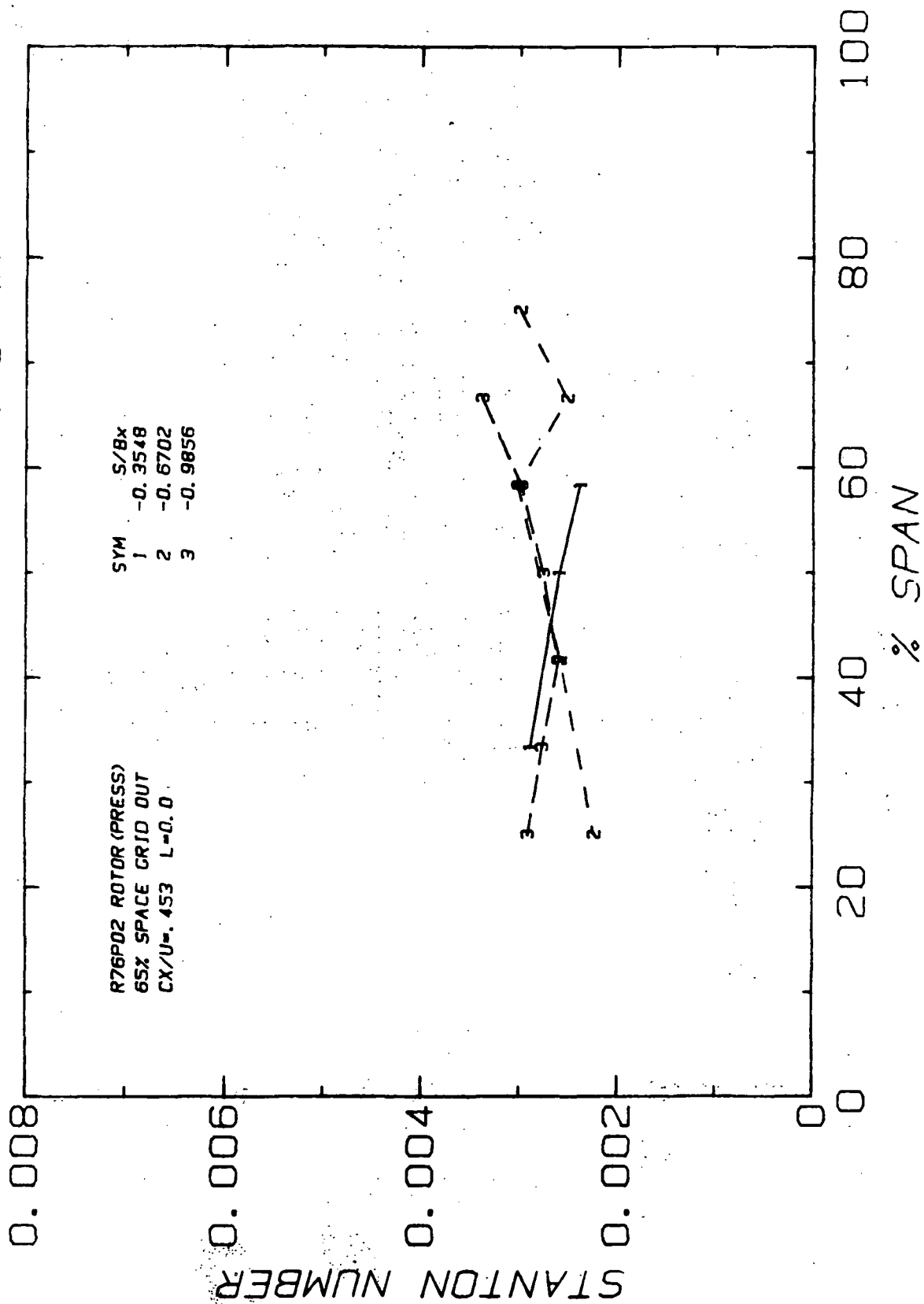
STANTON NO. VS. S/Bx



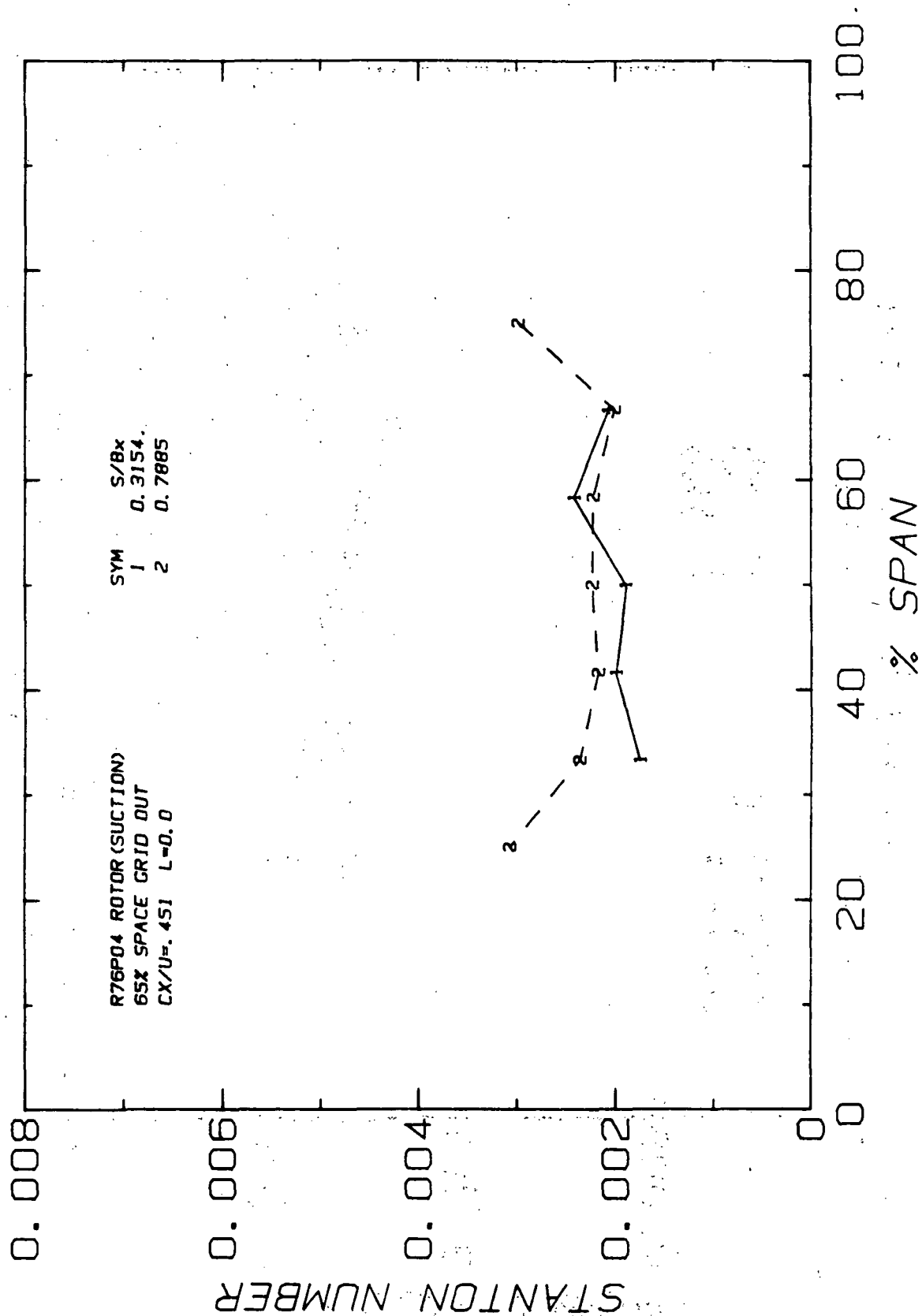
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



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ROTOR(PRESSURE) L=0 CX/U=.453 GRID OUT 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 76 POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	A	Q-NOM	BX
ENGLISH	26.2	169.9	0.0785	0.01394	0.2410	6.341
SI	-3.2	51.8	1.2568	0.02411	2.7351	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
42	0.30	0.047	0.003623	1582.0	47.1	8.4
59	-0.75	-0.118	0.002424	1038.6	57.1	13.9
60	-1.00	-0.158	0.003215	1404.0	49.6	9.8
62	-1.50	-0.237	0.002907	1270.6	52.0	11.1
63	-1.75	-0.276	0.002649	1157.1	54.4	12.5
67	-2.25	-0.355	0.002593	1132.6	55.0	12.8
71	-2.75	-0.434	0.002606	1138.2	54.9	12.7
72	-3.25	-0.513	0.002267	990.2	59.1	15.1
81	-4.75	-0.749	0.002410	1052.5	57.3	14.1
82	-5.25	-0.828	0.002515	1098.3	56.1	13.4
87	-6.25	-0.986	0.002752	1202.0	53.8	12.1
91	-6.75	-1.065	0.002726	1190.4	54.2	12.3
92	-7.25	-1.143	0.003811	1664.4	46.5	8.1

ROTOR(PRESSURE) L=0 CX/U=.453

GRID OUT 65X SPACING

SPANWISE HEAT TRANSFER

RUN: 76 POINT: 2

SYSTEM OF UNITS	TY	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	26.2	169.9	0.0785	0.01394	0.2410	6.341
SI	-3.2	51.8	1.2568	0.02411	2.7351	16.106

FOR UNITS SEE NOMENCLATURE

=====

S/BX = -0.35483

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
66	3.50	58.3	0.002381	1039.8	57.5	14.2
67	3.00	50.0	0.002593	1132.6	55.0	12.8
69	2.00	33.3	0.002889	1261.8	52.1	11.2

=====

S/BX = -0.67024

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
74	4.50	75.0	0.002992	1406.5	51.4	10.8
75	4.00	66.7	0.002513	1097.4	56.1	13.4
76	3.50	58.3	0.003014	1316.4	51.2	10.7
78	2.50	41.7	0.002580	1126.9	55.3	12.9
80	1.50	25.0	0.002227	972.7	59.8	15.4

=====

S/BX = -0.98565

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
85	4.00	66.7	0.003375	1474.1	48.8	9.4
86	3.50	58.3	0.002976	1299.5	51.8	11.0
87	3.00	50.0	0.002752	1202.0	53.0	12.1
88	2.50	41.7	0.002601	1136.0	55.3	13.0
89	2.00	33.3	0.002765	1207.7	53.7	12.0
90	1.50	25.0	0.002907	1269.4	52.4	11.3

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ROTOR (SUCTION) L=0 CX/U=:451 GRID OUT 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 76 POINT: 4

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	26.9	169.8	0.0784	0.01396	0.2380	3.341
SI	-2.8	51.8	1.2561	0.02415	2.7011	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
20	5.00	0.789	0.002234	973.0	59.7	15.4
25	4.00	0.631	0.001834	790.7	48.5	19.2
27	3.00	0.473	0.001651	719.0	40.7	21.5
28	2.50	0.394	0.001918	835.2	44.8	18.2
32	2.00	0.315	0.001895	825.2	45.2	18.4
38	0.50	0.079	0.003486	1518.2	48.1	9.0
40	0.40	0.063	0.003624	1578.4	47.3	8.5
44	0.20	0.032	0.003577	1358.2	47.3	8.7
49	-0.05	-0.008	0.003168	1380.0	50.2	10.1
50	-0.10	-0.016	0.003531	1538.0	47.9	8.8
52	-0.20	-0.032	0.003047	1327.2	51.1	10.6
53	-0.25	-0.039	0.003342	1455.5	49.0	9.5
56	-0.40	0.063	0.002522	1098.7	56.0	13.3
58	-0.50	-0.079	0.002787	1214.8	53.3	11.8

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ROTOR(SUCTION) L=0 CX/U=.451 GRID OUT 65X SPACING

SPANWISE HEAT TRANSFER

RUN: 76 POINT: 4

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	26.9	169.8	0.0784	0.01396	0.2390	6.341
SI	-2.8	51.8	1.2561	0.02415	2.7011	16.106

FOR UNITS SEE NOMENCLATURE

=====

S/BX = 0.31541

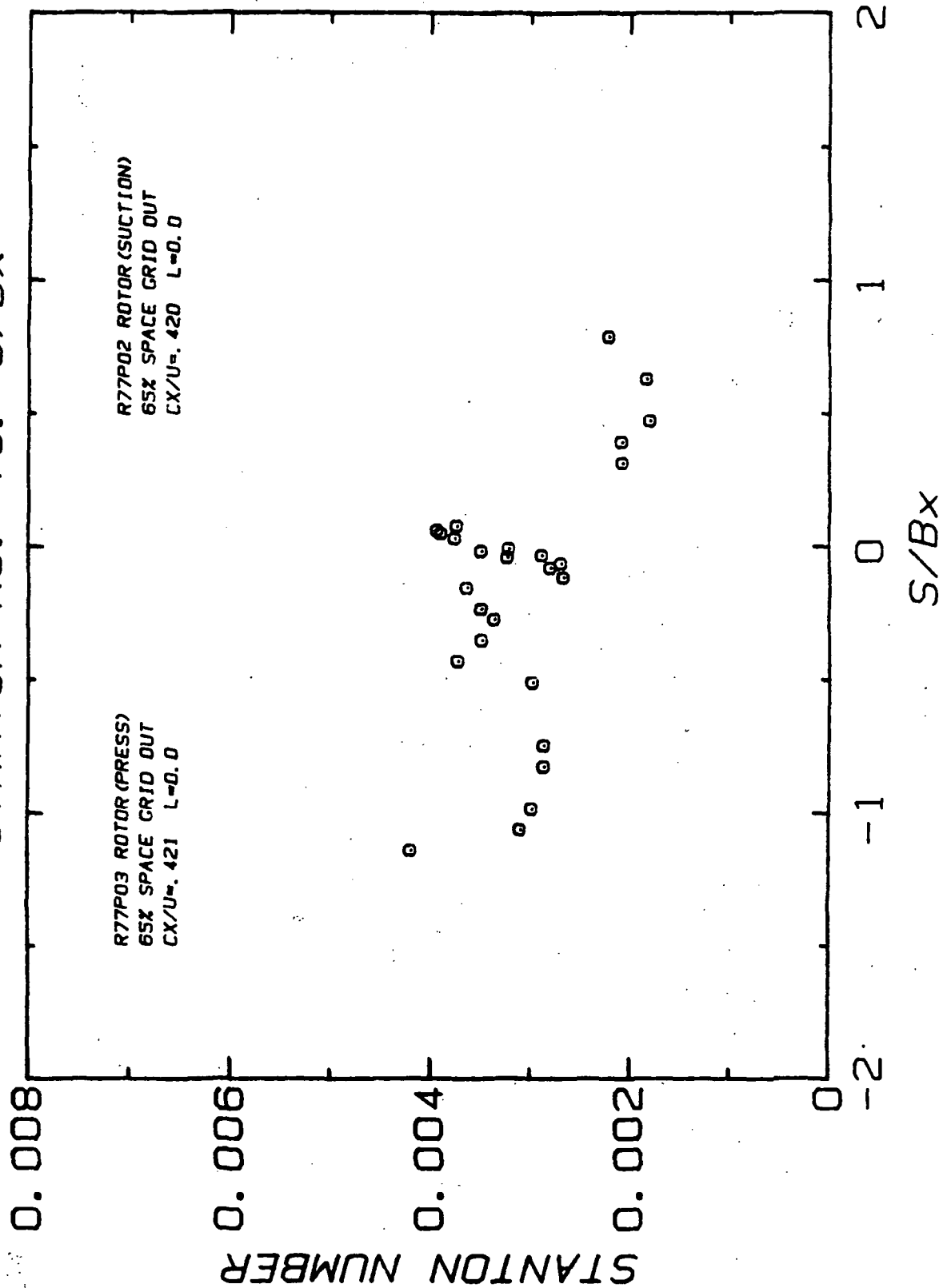
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
30	4.00	66.7	0.002071	901.9	62.1	16.7
31	3.50	58.3	0.002425	1056.0	57.1	13.9
32	3.00	50.0	0.001895	825.2	65.2	18.4
33	2.50	41.7	0.001996	869.3	63.3	17.4
34	2.00	33.3	0.001753	763.5	68.2	20.1

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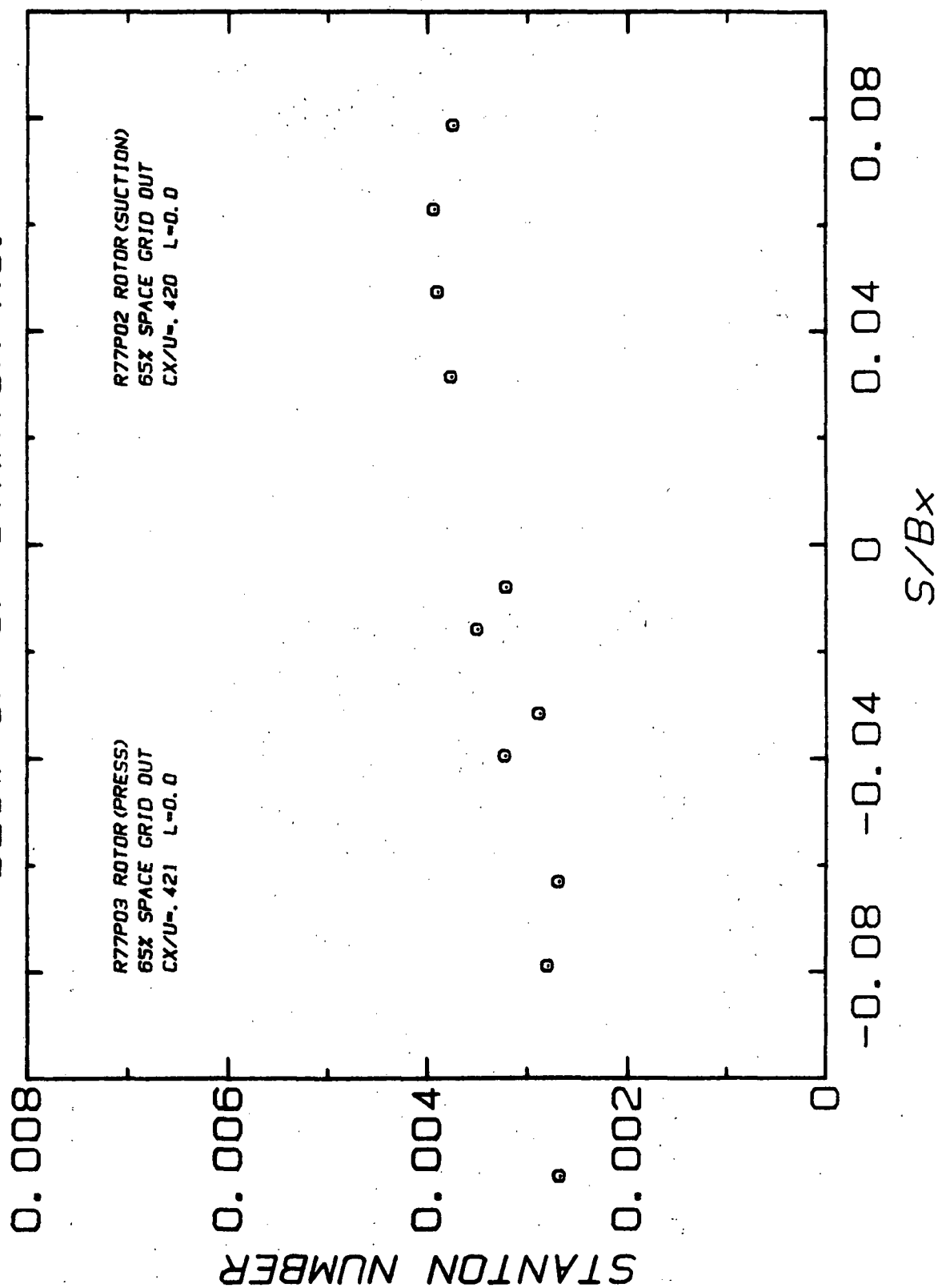
S/BX = 0.78852

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
17	4.50	75.0	0.002989	1301.7	51.6	10.9
18	4.00	66.7	0.002015	877.5	63.1	17.3
19	3.50	58.3	0.002229	971.0	59.7	15.4
20	3.00	50.0	0.002234	973.0	59.7	15.4
21	2.50	41.7	0.002176	947.9	60.5	15.8
22	2.00	33.3	0.002368	1031.2	57.9	14.4
23	1.50	25.0	0.003074	1339.0	50.7	10.5

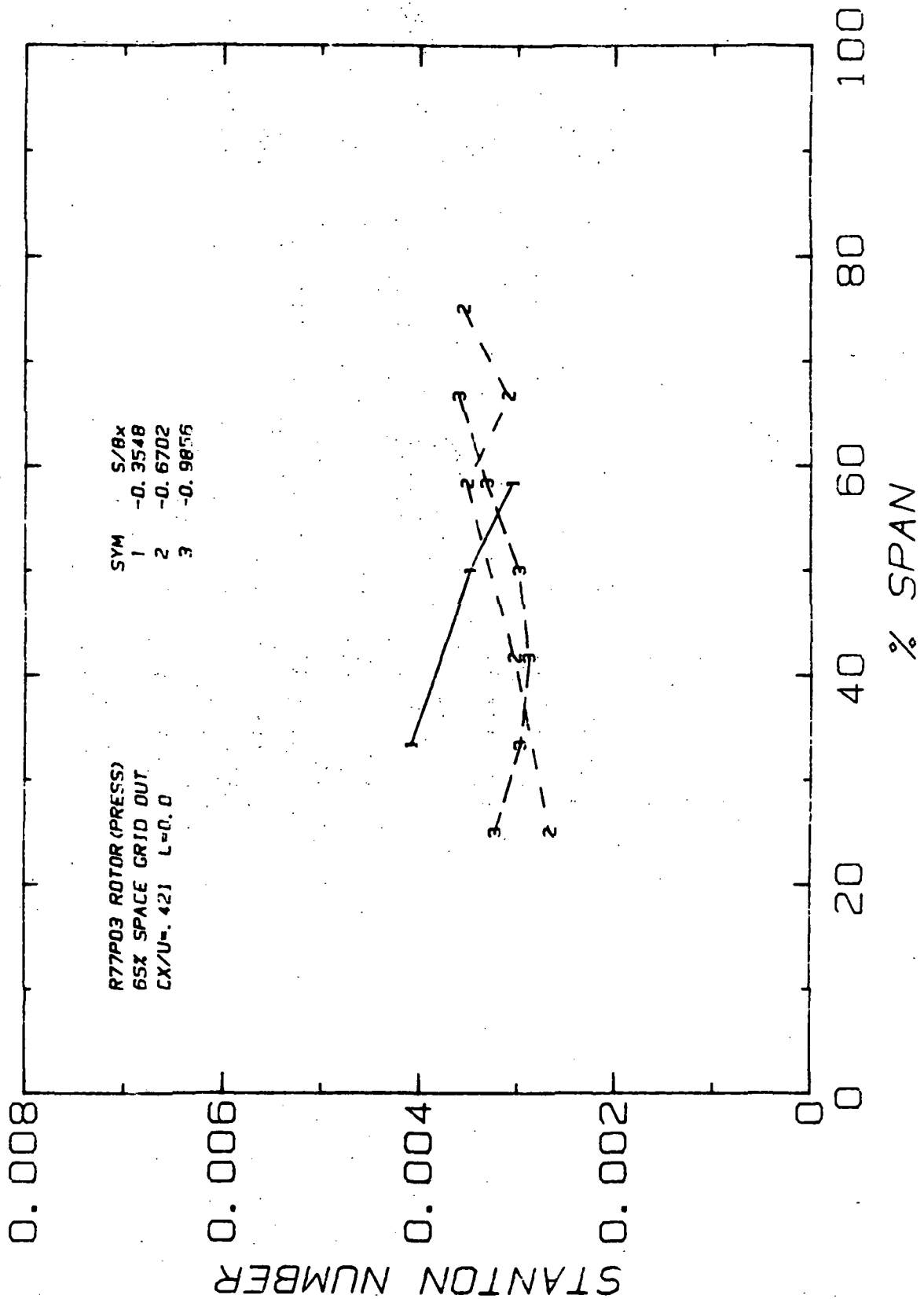
STANTON NO. VS. S/Bx



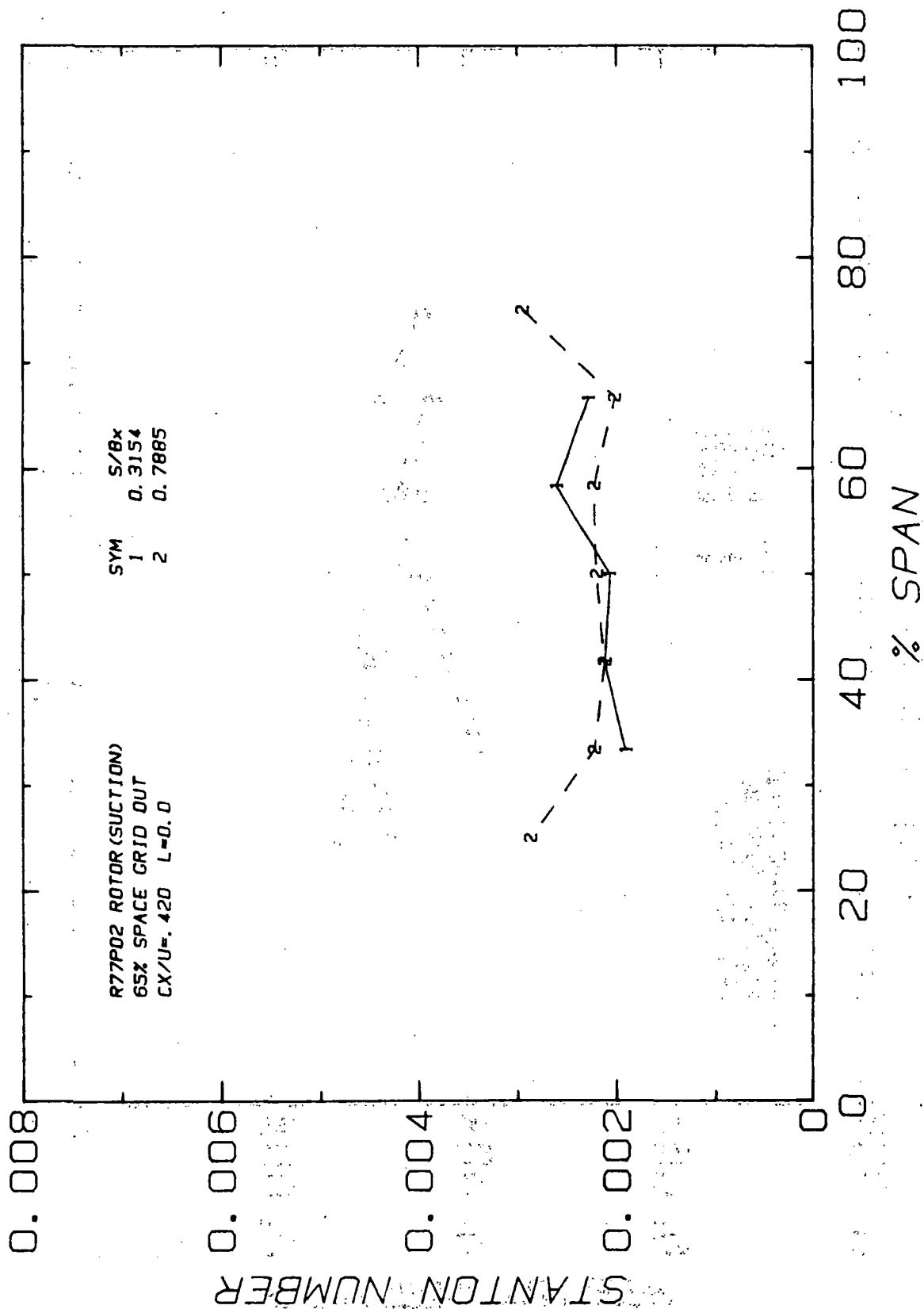
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



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ROTOR(PRESSURE) L=0 CX/U=.421 GRID OUT 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 77 POINT: 3

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NON	Rx
ENGLISH	27.6	156.0	0.0787	0.01497	0.0370	8.341
SI	-2.4	47.6	1.2606	0.02416	2.6897	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
42	0.30	0.047	0.003883	1558.0	48.4	9.1
59	-0.75	-0.118	0.002661	1067.6	37.6	11.2
60	-1.00	-0.158	0.003636	1458.8	49.7	9.8
62	-1.50	-0.237	0.003484	1397.9	50.6	10.3
63	-1.75	-0.276	0.003351	1344.7	51.5	10.8
67	-2.25	-0.355	0.003483	1397.7	50.6	10.3
71	-2.75	-0.434	0.003721	1493.2	49.1	9.5
72	-3.25	-0.513	0.002969	1191.2	54.5	12.5
81	-4.75	-0.749	0.002851	1143.8	55.7	13.2
82	-5.25	-0.828	0.002850	1143.0	55.0	13.2
87	-6.25	-0.986	0.002971	1192.3	54.8	12.7
91	-6.75	-1.065	0.003086	1238.1	54.0	12.2
92	-7.25	-1.143	0.004102	1676.2	47.3	8.5

ROTOR(PRESSURE) L=0 CX/U=.421

GRID OUT

65% SPACING

SPANWISE HEAT TRANSFER

RUN: 77

POINT: 3

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	HX
ENGLISH	27.6	156.0	0.0787	0.01397	0.2370	6.341
SI	-2.4	47.6	1.2606	0.02416	2.6897	16.106

FOR UNITS SEE NOMENCLATURE

=====							
S/BX = -0.35483							
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)	
66	3.50	58.3	0.003048	1222.8	53.8	12.1	
67	3.00	50.0	0.003483	1397.7	50.6	10.3	
69	2.00	33.3	0.004086	1639.6	47.2	8.5	
=====							
S/BX = -0.67024							
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)	
74	4.50	75.0	0.003553	1425.8	50.2	10.1	
75	4.00	66.7	0.003081	1236.3	53.6	12.0	
76	3.50	58.3	0.003519	1412.0	50.5	10.3	
78	2.50	41.7	0.003023	1212.9	54.1	12.3	
80	1.50	25.0	0.002656	1065.6	57.6	14.2	
=====							
S/BX = -0.98565							
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)	
85	4.00	66.7	0.003594	1442.2	50.2	10.1	
86	3.50	58.3	0.003308	1327.6	52.1	11.2	
87	3.00	50.0	0.002971	1192.3	54.8	12.7	
88	2.50	41.7	0.002876	1153.9	55.7	13.2	
89	2.00	33.3	0.002970	1191.9	54.8	12.7	
90	1.50	25.0	0.003222	1292.9	52.8	11.5	

ORIGINAL PAGE IS
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ORIGINAL PAGE IS
OF POOR QUALITY

ROTOR(SUCTION) L=0 CX/U=.420 GRID OUT 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 77 POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	N	Q-NOM	BX
ENGLISH	27.6	156.3	0.0787	0.01397	0.2320	6.341
SI	-2.4	47.6	1.2611	0.02416	2.6330	16.106

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
20	5.00	0.789	0.002203	885.7	62.5	17.0
25	4.00	0.631	0.001829	735.5	69.3	20.7
27	3.00	0.473	0.001794	721.4	70.1	21.2
28	2.50	0.394	0.002070	845.5	64.5	18.0
32	2.00	0.315	0.002068	831.5	64.6	18.1
38	0.50	0.079	0.003735	1501.7	48.5	9.2
40	0.40	0.063	0.003929	1579.5	47.5	8.6
44	0.20	0.032	0.003732	1508.4	48.4	9.1
49	-0.05	-0.008	0.003204	1238.3	51.0	11.0
50	-0.10	-0.016	0.003492	1403.9	47.9	9.9
52	-0.20	-0.032	0.002877	1156.8	54.5	12.5
53	-0.25	-0.039	0.003223	1295.0	51.7	10.9
56	-0.40	-0.063	0.002683	1078.8	56.4	13.5
58	-0.50	-0.079	0.002793	1122.9	55.3	12.9

ROTOR(SUCTION) L=0 CX/U=.420

GRID OUT 65X SPACING

SPANWISE HEAT TRANSFER

RUN: 77 POINTS: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	27.6	156.3	0.0787	0.01397	0.2320	6.341
SI	-2.4	47.6	1.2611	0.02416	2.6330	16.106

FOR UNITS SEE NOMENCLATURE

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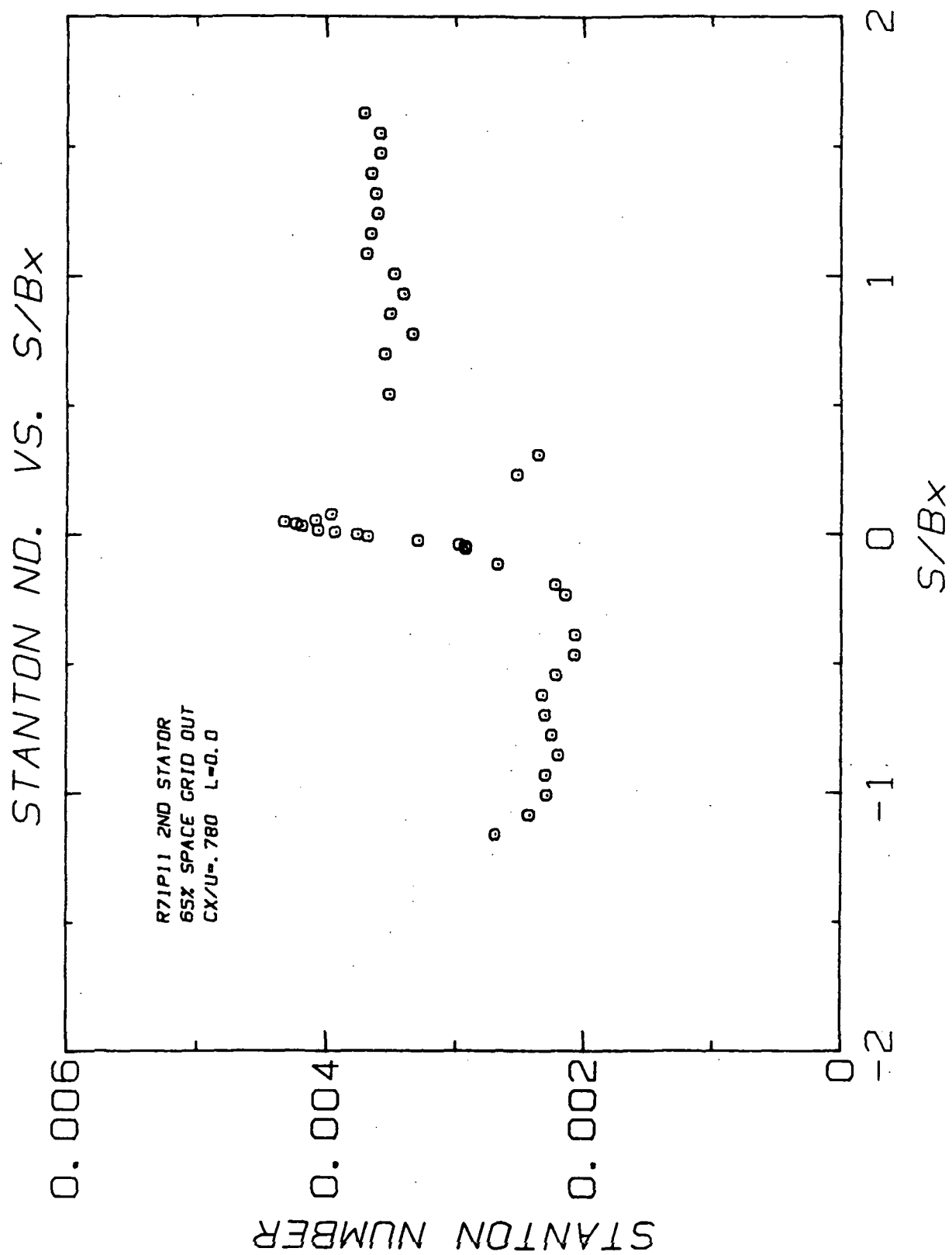
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TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
30	4.00	66.7	0.002281	917.1	61.3	16.3
31	3.50	58.3	0.002604	1047.1	57.2	14.0
32	3.00	50.0	0.002068	831.5	64.6	18.1
33	2.50	41.7	0.002110	851.6	63.8	17.7
34	2.00	33.3	0.001904	765.6	67.7	19.8

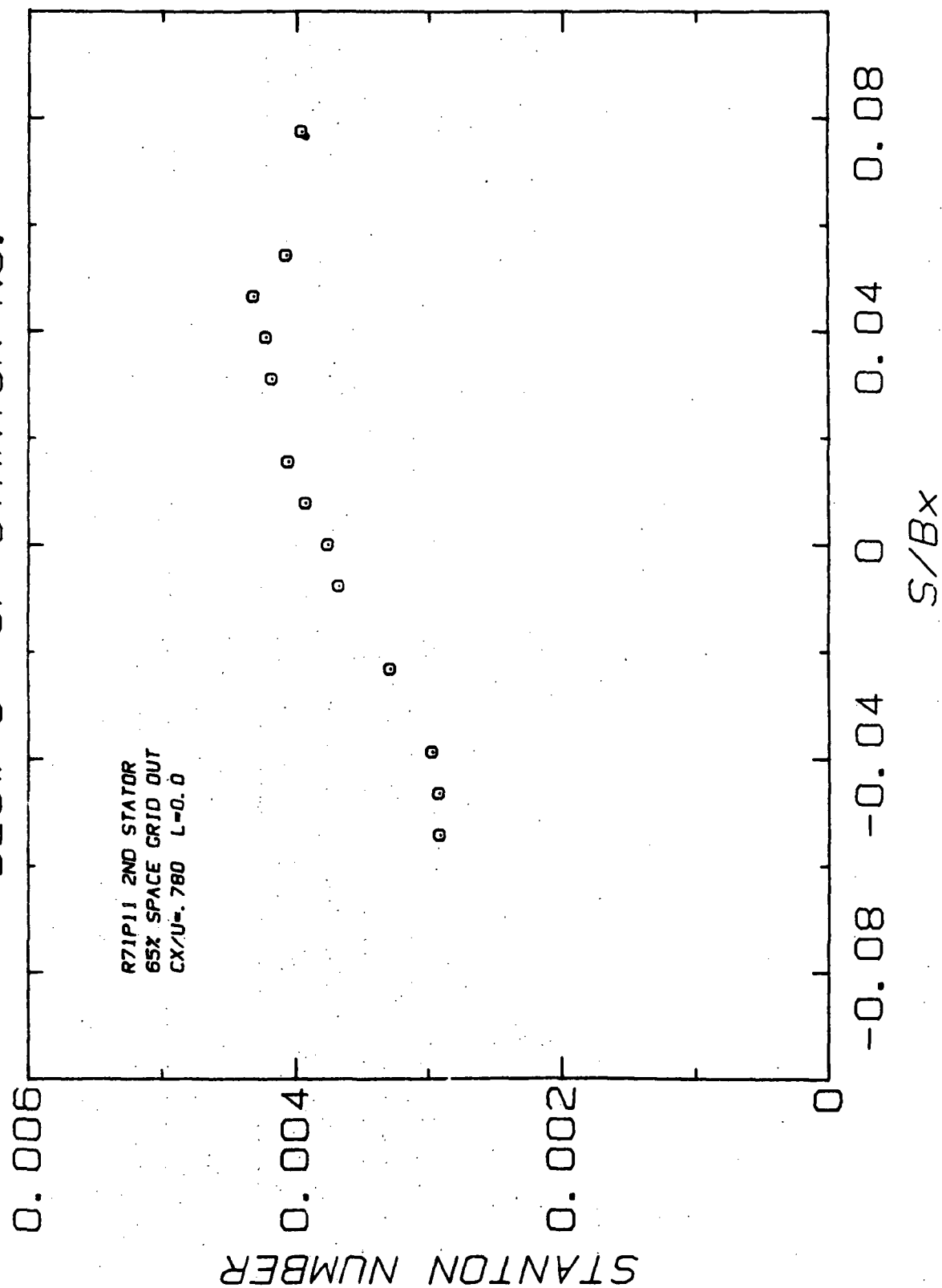
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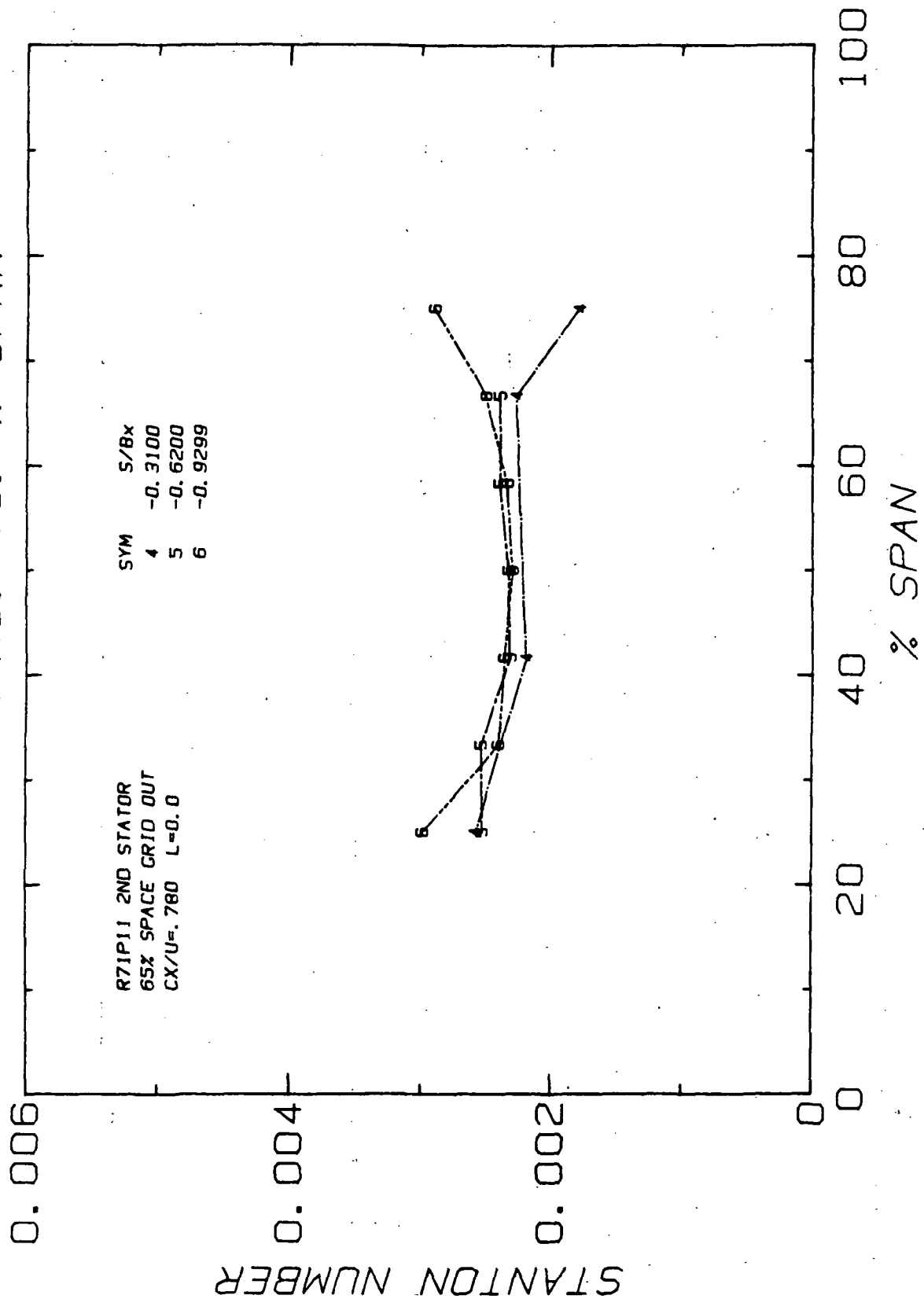
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
17	4.50	75.0	0.002948	1185.3	53.9	12.2
18	4.00	66.7	0.002019	811.8	65.6	18.7
19	3.50	58.3	0.002220	895.7	62.1	16.7
20	3.00	50.0	0.002203	885.7	62.5	17.0
21	2.50	41.7	0.002119	851.9	63.7	17.7
22	2.00	33.3	0.002225	894.7	62.2	16.8
23	1.50	25.0	0.002870	1153.9	54.6	12.6



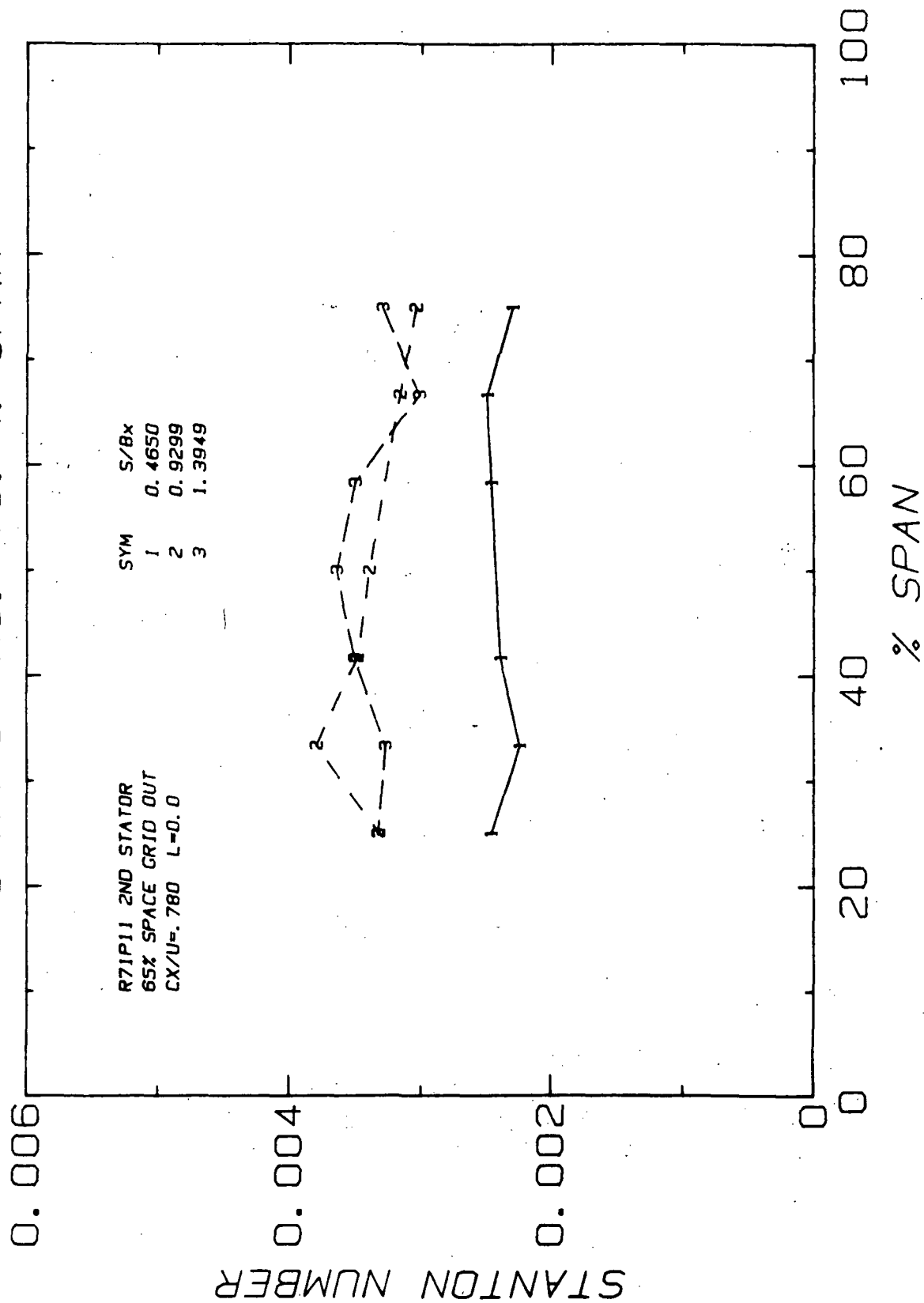
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



ORIGINAL PAGE IS
OF POOR QUALITY

2ND STATOR (L=0.0) CX/U=.780 GRID OUT 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 71 POINT: 11

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	38.5	175.0	0.0765	0.01426	0.2640	6.452
SI	3.6	53.3	1.2255	0.02466	2.9961	16.388

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	10.50	1.627	0.003701	1614.1	61.0	16.1
2	10.00	1.550	0.003575	1559.0	61.7	16.5
3	9.50	1.472	0.003573	1558.2	61.8	16.5
7	9.00	1.395	0.003641	1588.0	61.3	16.3
11	8.50	1.317	0.003608	1573.3	61.5	16.4
12	8.00	1.240	0.003591	1566.3	61.6	16.5
13	7.50	1.162	0.003649	1591.3	61.2	16.2
14	7.00	1.085	0.003684	1606.5	61.0	16.1
15	6.50	1.007	0.003466	1511.7	62.4	16.9
19	6.00	0.930	0.003397	1481.3	62.9	17.1
23	5.50	0.852	0.003497	1525.3	62.2	16.8
24	5.00	0.775	0.003319	1447.3	63.4	17.5
25	4.50	0.697	0.003535	1541.7	61.9	16.6
27	3.50	0.542	0.003505	1528.4	62.1	16.7
36	2.00	0.310	0.002351	1025.2	73.4	23.0
37	1.50	0.232	0.002511	1094.8	71.2	21.8
39	0.50	0.077	0.003956	1725.1	59.5	15.3
42	0.35	0.054	0.004073	1776.3	58.8	14.9
43	0.30	0.046	0.004316	1882.3	57.7	14.3
44	0.25	0.039	0.004223	1841.6	58.1	14.5
45	0.20	0.031	0.004178	1821.9	58.3	14.6
47	0.10	0.015	0.004053	1767.6	58.9	15.0
48	0.05	0.008	0.003921	1709.8	59.6	15.3
49	0.00	0.000	0.003751	1635.8	60.5	15.8
50	-0.05	-0.008	0.003669	1600.0	61.0	16.1
52	-0.15	-0.023	0.003279	1429.8	63.5	17.5
54	-0.25	-0.039	0.002962	1291.8	66.2	19.0
55	-0.30	-0.046	0.002913	1270.4	66.6	19.2
56	-0.35	-0.054	0.002908	1268.2	66.7	19.3
60	-0.75	-0.116	0.002660	1160.2	69.3	20.7
62	-1.25	-0.194	0.002210	963.9	75.5	24.2
63	-1.50	-0.232	0.002129	928.4	76.9	24.9
71	-2.50	-0.387	0.002057	897.1	78.1	25.6
72	-3.00	-0.465	0.002061	898.9	78.0	25.5
73	-3.50	-0.542	0.002209	963.5	75.4	24.1
77	-4.00	-0.620	0.002319	1011.5	73.7	23.2
81	-4.50	-0.697	0.002294	1000.5	74.0	23.4
82	-5.00	-0.775	0.002240	976.7	74.9	23.8
83	-5.50	-0.852	0.002186	953.3	75.7	24.3
87	-6.00	-0.930	0.002291	999.2	74.0	23.3
91	-6.50	-1.007	0.002281	994.9	74.1	23.4
92	-7.00	-1.085	0.002417	1053.9	72.2	22.3
93	-7.50	-1.162	0.002685	1170.9	68.9	20.5

SPANWISE HEAT TRANSFER

RUN: 71

POINT: 11

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	38.5	175.0	0.0765	0.01426	0.2640	6.452
SI	3.6	53.3	1.2255	0.02466	2.9961	16.388

FOR UNITS SEE NOMENCLATURE

=====

S/BX = 0.46497

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
28	4.50	75.0	0.002301	1003.3	74.1	23.4
29	4.00	66.7	0.002493	1087.2	71.5	21.9
30	3.50	58.3	0.002458	1072.0	71.9	22.2
32	2.50	41.7	0.002389	1041.7	72.9	22.7
33	2.00	33.3	0.002239	976.5	75.1	23.9
34	1.50	25.0	0.002460	1072.7	71.9	22.2

=====

S/BX = 0.92994

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
16	4.50	75.0	0.003044	1327.6	65.6	18.7
17	4.00	66.7	0.003161	1378.6	64.6	18.1
19	3.00	50.0	0.003397	1481.3	62.9	17.1
20	2.50	41.7	0.003488	1521.3	62.2	16.8
21	2.00	33.3	0.003797	1655.9	60.3	15.7
22	1.50	25.0	0.003317	1416.4	63.4	17.5

=====

S/BX = 1.39492

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
4	4.50	75.0	0.003294	1436.3	63.7	17.6
5	4.00	66.7	0.003013	1314.0	66.0	18.9
6	3.50	58.3	0.003501	1526.6	62.2	16.8
7	3.00	50.0	0.003641	1588.0	61.3	16.3
8	2.50	41.7	0.003506	1528.8	62.2	16.8
9	2.00	33.3	0.003267	1424.9	63.9	17.7
10	1.50	25.0	0.003326	1450.6	63.4	17.5

=====

S/BX = -0.30998

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
64	4.50	75.0	0.001779	775.9	84.0	28.9
65	4.00	66.7	0.002264	987.2	74.6	23.7
68	2.50	41.7	0.002183	951.9	75.9	24.4
70	1.50	25.0	0.002580	1125.1	70.3	21.3

=====

S/BX = -0.61996

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
75	4.00	66.7	0.002387	1041.0	72.7	22.6
76	3.50	58.3	0.002386	1040.5	72.7	22.6
77	3.00	50.0	0.002319	1011.5	73.7	23.2
78	2.50	41.7	0.002310	1007.4	73.8	23.2
79	2.00	33.3	0.002534	1105.2	70.8	21.6
80	1.50	25.0	0.002528	1102.4	70.9	21.6

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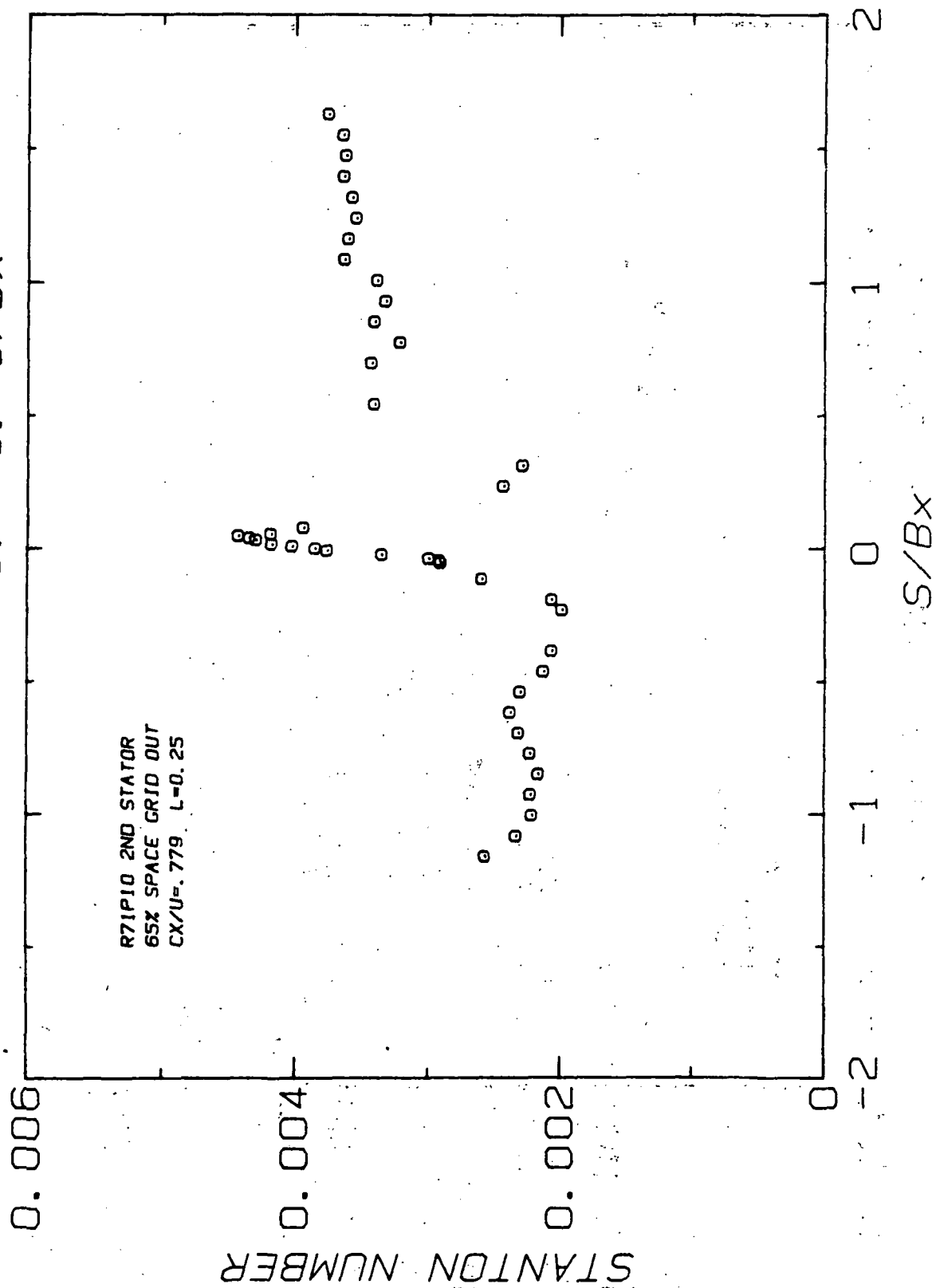
S/BX = -0.92994

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
84	4.50	75.0	0.002898	1264.0	66.8	19.3
85	4.00	66.7	0.002496	1088.5	71.2	21.8
86	3.50	58.3	0.002333	1017.2	73.4	23.0
87	3.00	50.0	0.002291	999.2	74.0	23.3
88	2.50	41.7	0.002352	1025.6	73.1	22.8
89	2.00	33.3	0.002394	1044.1	72.5	22.5
90	1.50	25.0	0.002985	1301.8	66.0	18.9

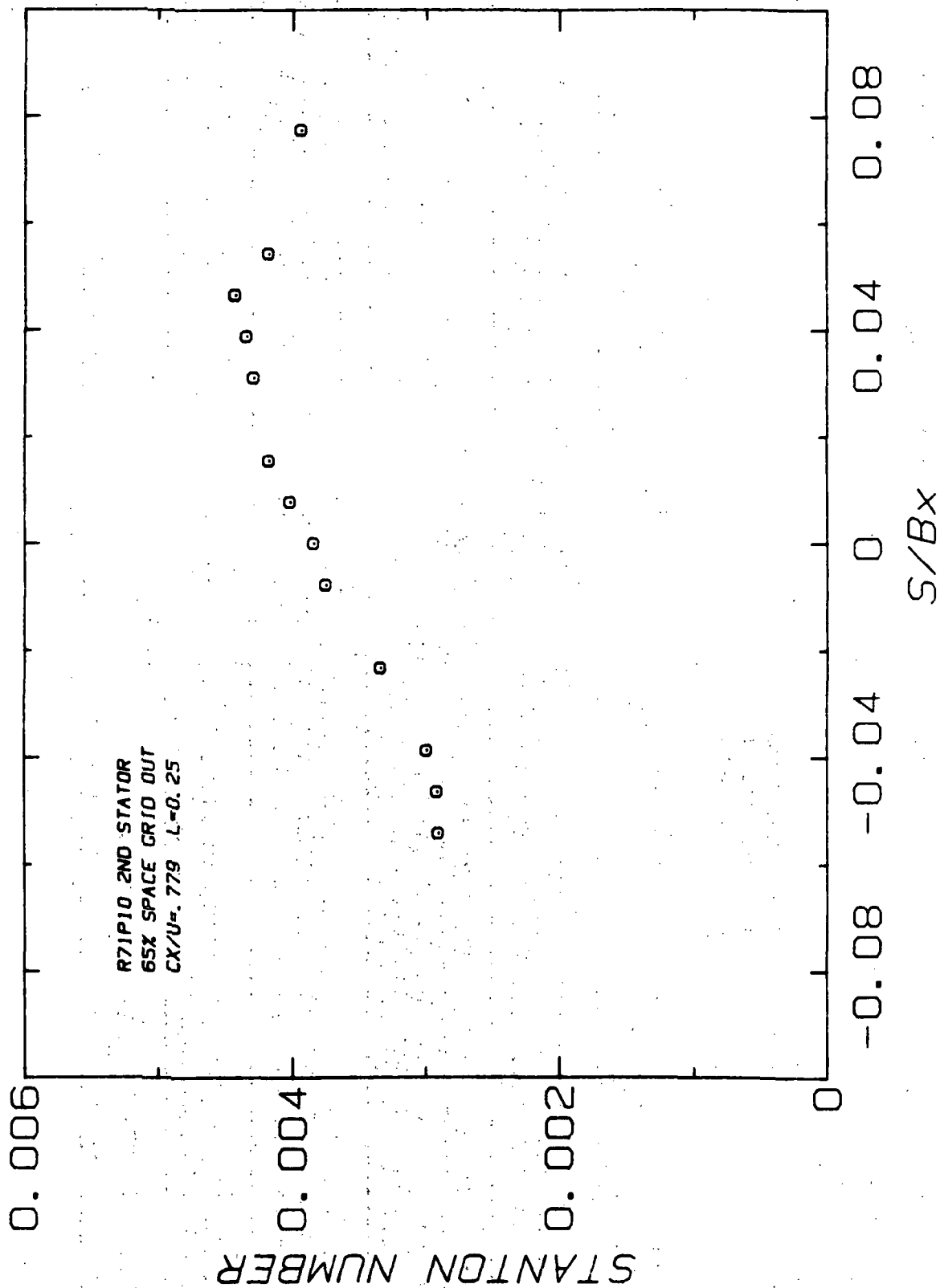
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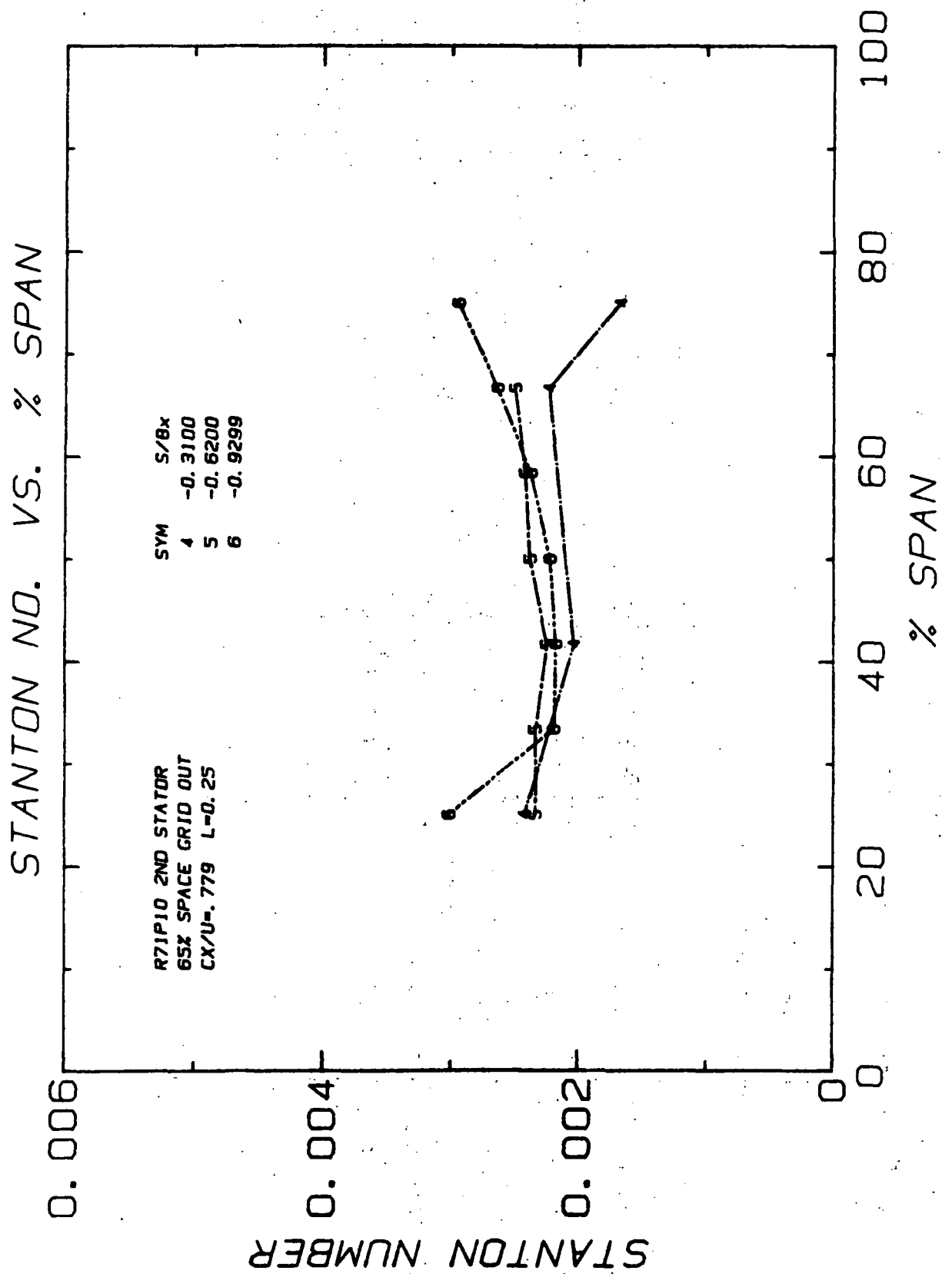
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STANTON NO. VS. S/B_x

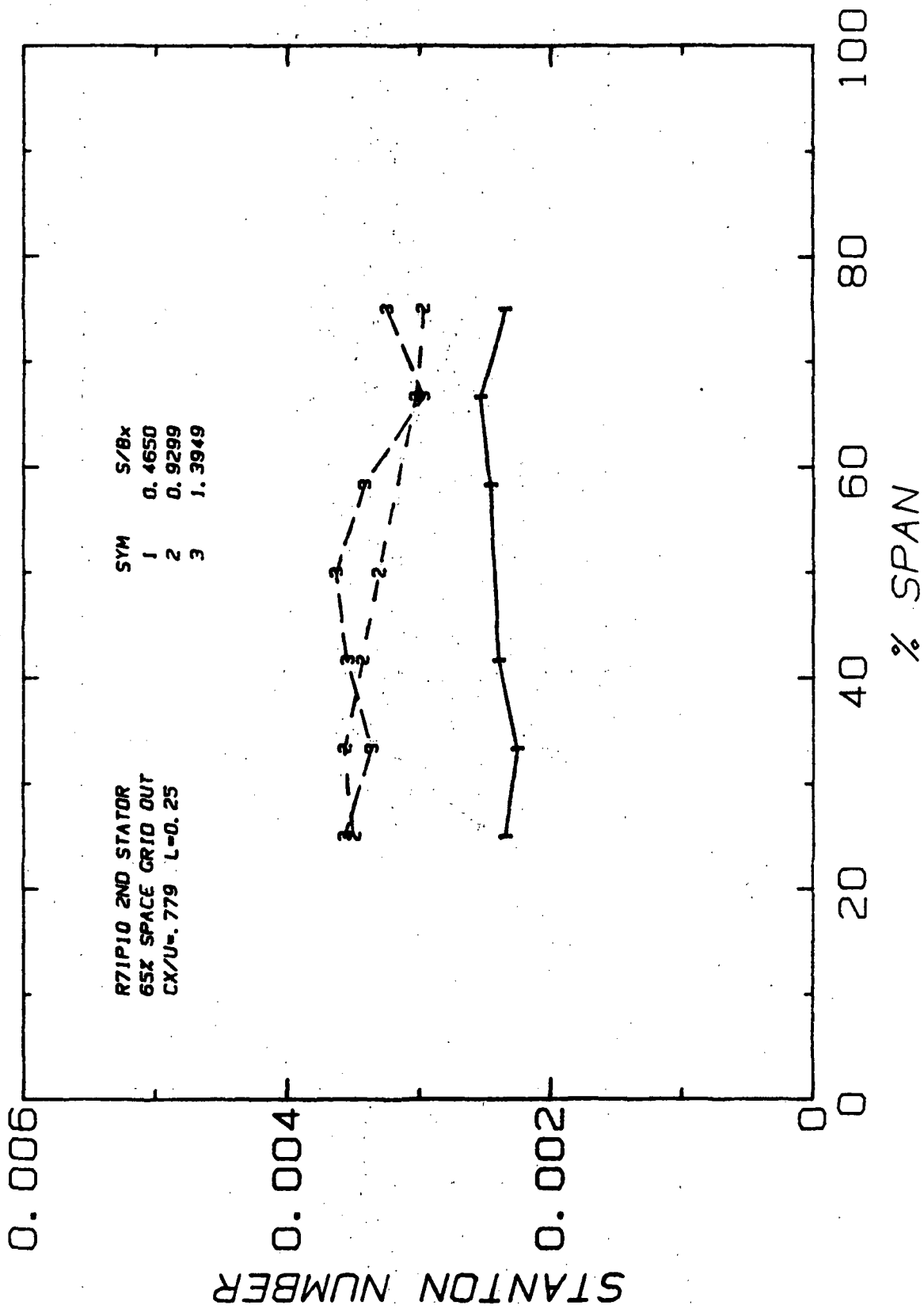


BLOW-UP OF STANTON NO.





STANTON NO. VS. % SPAN



ORIGINAL PAGE IS
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2ND STATOR (L=0.25) CX/U=.779

GRID OUT

65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 71

POINT: 10

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	38.9	175.0	0.0764	0.01428	0.2770	6.452
SI	3.8	53.3	1.2244	0.02470	3.1437	16.388

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	1WALL (F)	1WALL (C)
1	10.50	1.627	0.003746	1429.9	62.2	16.8
2	10.00	1.530	0.003633	1580.4	63.0	17.2
3	9.50	1.472	0.003610	1570.7	63.1	17.3
7	9.00	1.395	0.003629	1578.9	63.0	17.2
11	8.50	1.317	0.003564	1550.5	63.4	17.5
12	8.00	1.240	0.003535	1538.1	63.6	17.6
13	7.50	1.162	0.003595	1563.9	63.2	17.3
14	7.00	1.085	0.003624	1576.5	63.0	17.2
15	6.50	1.007	0.003376	1468.7	64.7	18.2
19	6.00	0.930	0.003310	1439.9	65.2	18.4
23	5.50	0.852	0.003394	1476.7	64.6	18.1
24	5.00	0.775	0.003200	1392.4	66.1	18.9
25	4.50	0.697	0.003417	1486.5	64.4	18.0
27	3.50	0.542	0.003392	1475.8	64.6	18.1
36	2.00	0.310	0.002279	991.5	76.8	24.9
37	1.50	0.232	0.002421	1053.4	74.5	23.6
39	0.50	0.077	0.003930	1710.0	61.1	16.2
42	0.35	0.054	0.004175	1816.4	59.8	15.4
43	0.30	0.046	0.004425	1925.2	58.6	14.8
44	0.25	0.039	0.004337	1887.0	59.0	15.0
45	0.20	0.031	0.004285	1864.3	59.2	15.1
47	0.10	0.015	0.004167	1813.0	59.8	15.4
48	0.05	0.008	0.004012	1745.5	60.6	15.9
49	0.00	0.000	0.003836	1668.9	61.5	16.4
50	-0.05	-0.008	0.003745	1629.5	62.1	16.7
52	-0.15	-0.023	0.003335	1451.0	64.8	18.2
54	-0.25	-0.039	0.002983	1297.9	67.8	19.9
55	-0.30	-0.046	0.002904	1263.6	68.6	20.3
56	-0.35	-0.054	0.002896	1260.0	68.7	20.4
60	-0.75	-0.116	0.002585	1124.8	72.2	22.3
62	-1.25	-0.194	0.002054	893.5	80.7	27.1
63	-1.50	-0.232	0.001977	860.1	82.3	27.9
71	-2.50	-0.387	0.002057	894.7	80.6	27.0
72	-3.00	-0.465	0.002123	923.4	79.3	26.3
73	-3.50	-0.542	0.002297	999.4	76.3	24.6
77	-4.00	-0.620	0.002372	1031.8	75.2	24.0
81	-4.50	-0.697	0.002307	1003.7	76.1	24.5
82	-5.00	-0.775	0.002221	966.2	77.5	25.3
83	-5.50	-0.852	0.002155	937.6	78.6	25.9
87	-6.00	-0.930	0.002214	963.3	77.5	25.3
91	-6.50	-1.007	0.002204	959.1	77.6	25.4
92	-7.00	-1.085	0.002324	1011.1	75.7	24.3
93	-7.50	-1.162	0.002563	1115.1	72.3	22.4

2ND STATOR (L=0.25) CX/U=.779

GRID OUT

65% SPACING

SPANWISE HEAT TRANSFER

RUN: 71

POINT: 10

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	38.9	175.0	0.0764	0.01428	0.2770	6.452
SI	3.8	53.3	1.2244	0.02470	3.1437	16.388

FOR UNITS SEE NOMENCLATURE

=====

S/BX = 0.46497

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
28	4.50	75.0	0.002343	1019.4	75.8	24.3
29	4.00	66.7	0.002535	1103.1	73.1	22.8
30	3.50	58.3	0.002458	1069.3	74.1	23.4
32	2.50	41.7	0.002392	1040.7	75.0	23.9
33	2.00	33.3	0.002254	980.5	77.2	25.1
34	1.50	25.0	0.002347	1021.2	75.7	24.3

=====

S/BX = 0.92994

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
16	4.50	75.0	0.002972	1292.8	68.1	20.1
17	4.00	66.7	0.003029	1317.9	67.6	19.8
19	3.00	50.0	0.003310	1439.9	65.2	18.4
20	2.50	41.7	0.003432	1493.1	64.3	17.9
21	2.00	33.3	0.003565	1551.1	63.4	17.4
22	1.50	25.0	0.003499	1522.1	63.8	17.7

=====

S/BX = 1.39492

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
4	4.50	75.0	0.003244	1411.2	65.8	18.8
5	4.00	66.7	0.002969	1291.8	68.2	20.1
6	3.50	58.3	0.003420	1487.8	64.4	18.0
7	3.00	50.0	0.003629	1578.9	63.0	17.2
8	2.50	41.7	0.003543	1541.6	63.6	17.5
9	2.00	33.3	0.003361	1462.1	64.9	18.3
10	1.50	25.0	0.003569	1552.6	63.4	17.4

=====

S/BX = -0.30998

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
64	4.50	75.0	0.001667	725.2	90.0	32.2
65	4.00	66.7	0.002223	967.3	77.6	25.3
68	2.50	41.7	0.002025	880.9	81.2	27.4
70	1.50	25.0	0.002415	1050.7	74.6	23.7

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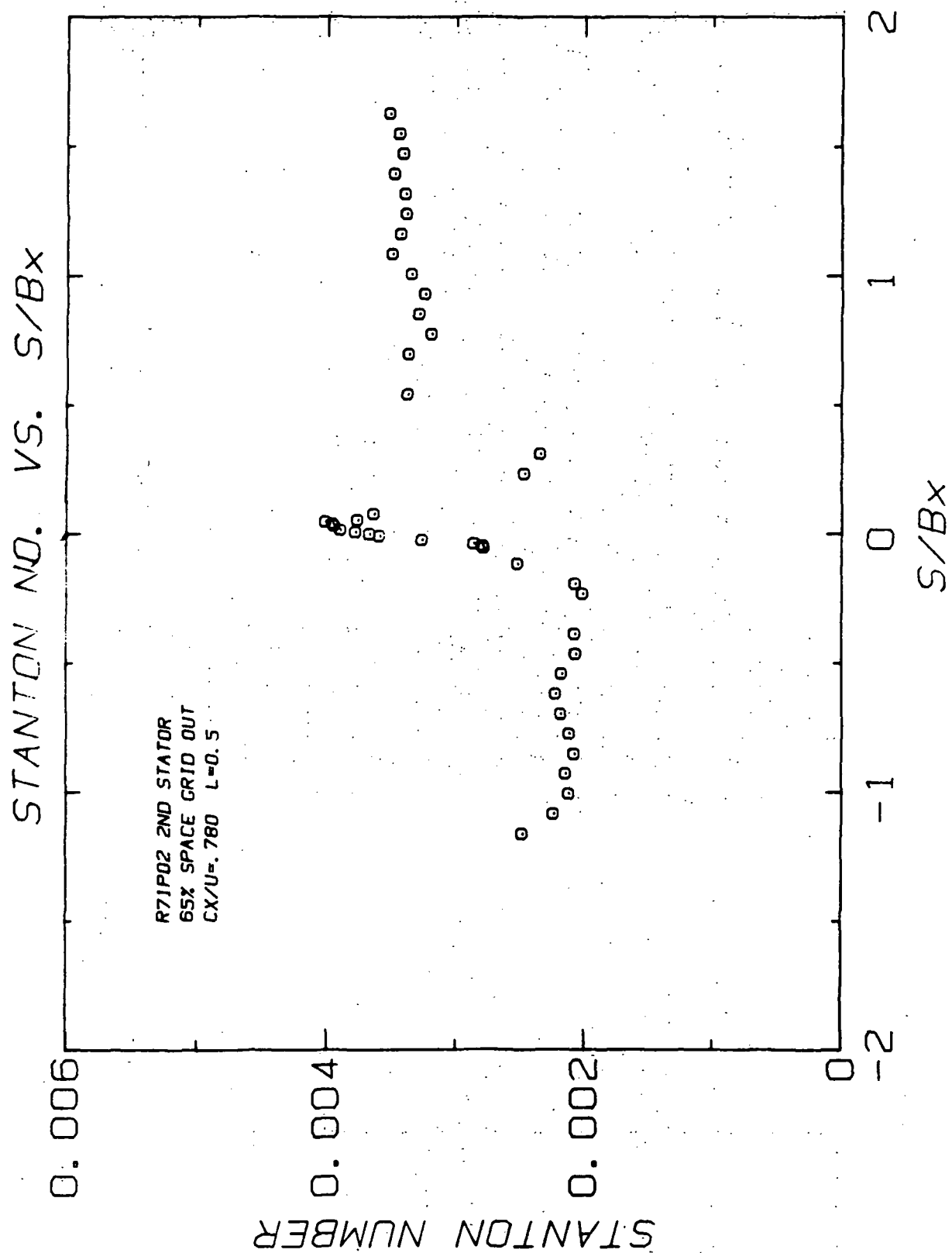
S/BX = -0.61996

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
75	4.00	66.7	0.002491	1083.8	73.5	23.0
76	3.50	58.3	0.002409	1048.3	74.6	23.7
77	3.00	50.0	0.002372	1031.8	75.2	24.0
78	2.50	41.7	0.002236	973.0	77.3	25.2
79	2.00	33.3	0.002330	1013.7	75.8	24.3
80	1.50	25.0	0.002326	1011.8	75.9	24.4

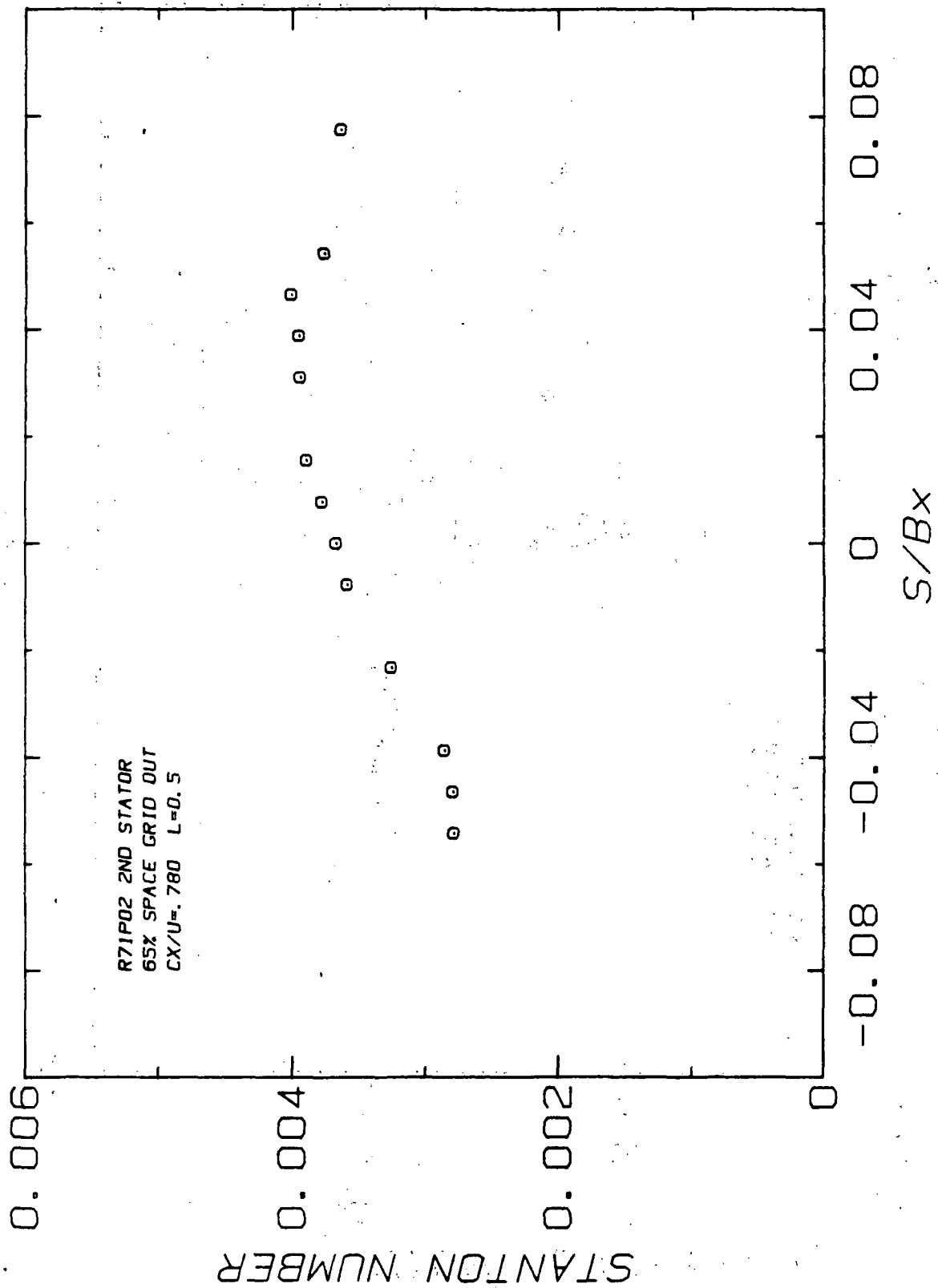
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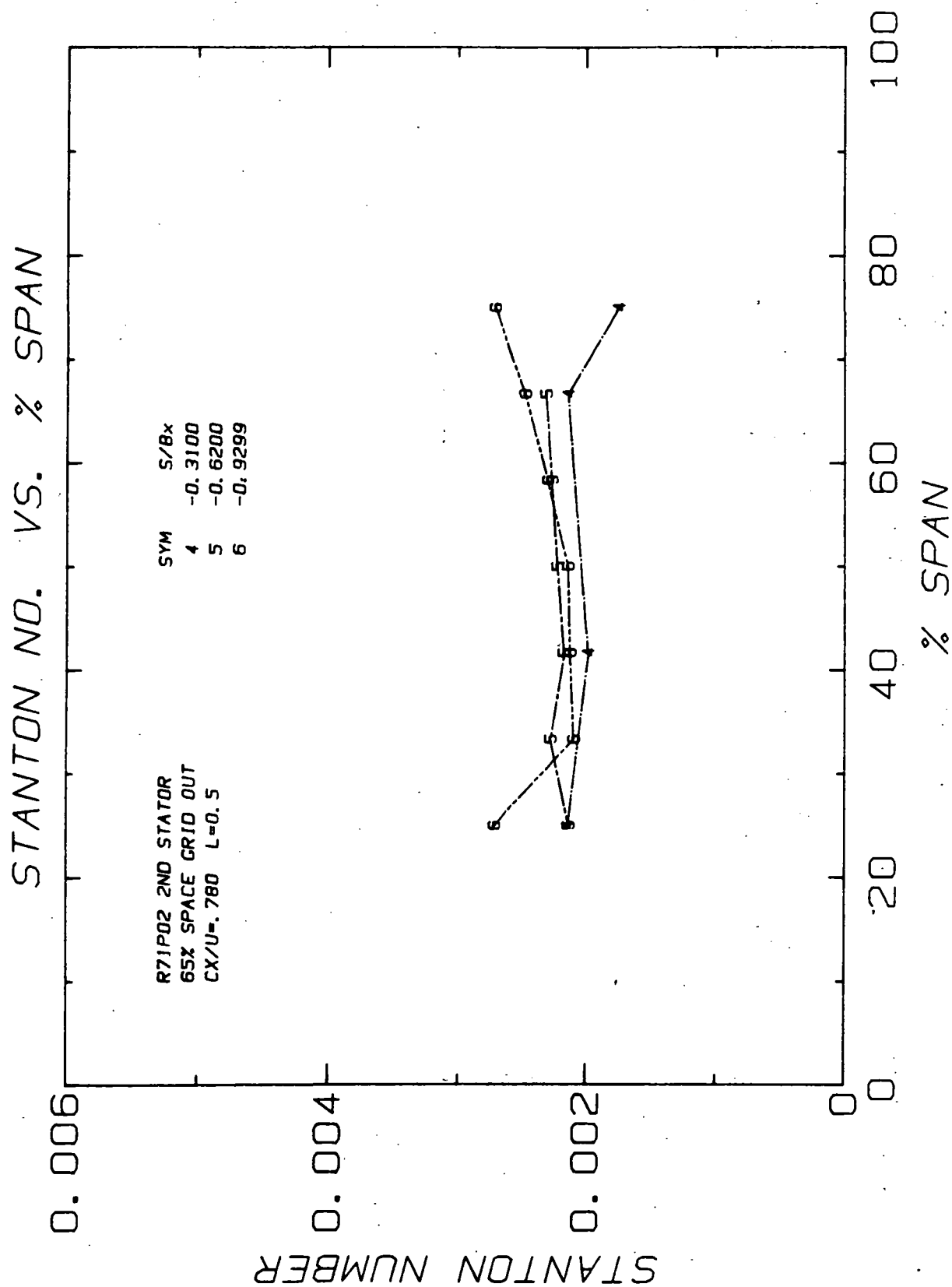
S/BX = -0.92994

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
84	4.50	75.0	0.002947	1282.0	68.2	20.1
85	4.00	66.7	0.002630	1144.2	71.6	22.0
86	3.50	58.3	0.002367	1029.7	75.1	24.0
87	3.00	50.0	0.002214	963.3	77.5	25.3
88	2.50	41.7	0.002166	942.1	78.4	25.8
89	2.00	33.3	0.002182	949.5	78.1	25.6
90	1.50	25.0	0.003014	1311.1	67.6	19.8

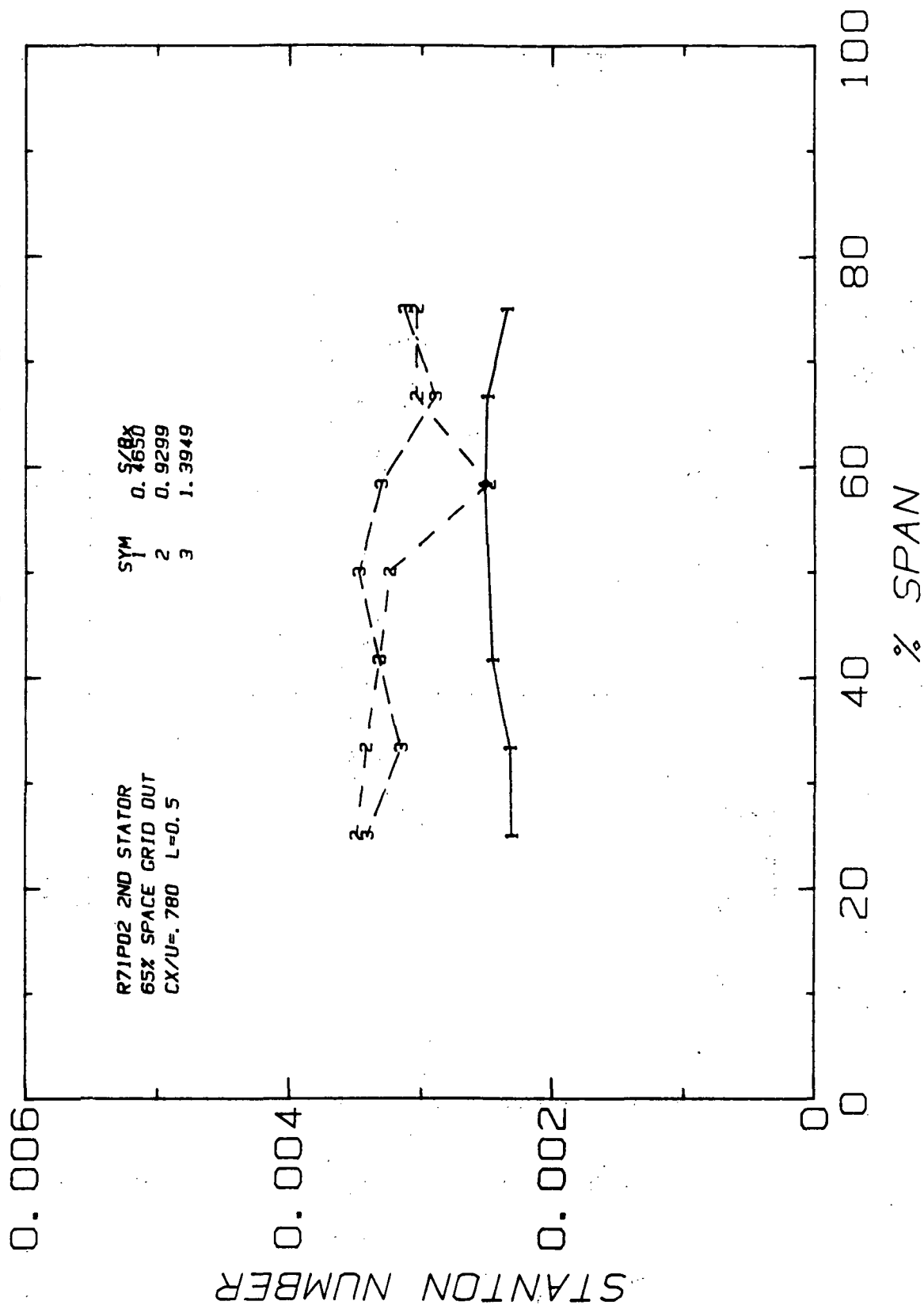


BLOW-UP OF STANTON NO.





STANTON NO. VS. % SPAN



ORIGINAL PAGE IS
OF POOR QUALITY

2ND STATOR (L=0.5) CX/U=.780 GRID OUT 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 71 POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	31.2	174.8	0.0781	0.01407	0.2850	6.452
SI	-0.4	53.3	1.2515	0.02434	3.2345	16.388

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	10.50	1.627	0.003509	1581.7	56.3	13.5
2	10.00	1.550	0.003433	1547.5	56.8	13.8
3	9.50	1.472	0.003403	1534.0	57.1	13.9
7	9.00	1.395	0.003471	1564.6	56.5	13.6
11	8.50	1.317	0.003386	1526.3	57.1	14.0
12	8.00	1.240	0.003382	1524.6	57.1	14.0
13	7.50	1.162	0.003427	1544.8	56.8	13.8
14	7.00	1.085	0.003489	1572.8	56.3	13.5
15	6.50	1.007	0.003339	1505.2	57.4	14.1
19	6.00	0.930	0.003239	1460.1	58.2	14.5
23	5.50	0.852	0.003280	1478.8	57.8	14.4
24	5.00	0.775	0.003180	1433.6	58.7	14.8
25	4.50	0.697	0.003360	1514.7	57.2	14.0
27	3.50	0.542	0.003367	1518.0	57.2	14.0
36	2.00	0.310	0.002340	1054.7	68.3	20.2
37	1.50	0.232	0.002460	1108.8	66.5	19.1
39	0.50	0.077	0.003631	1636.7	55.3	13.0
42	0.35	0.054	0.003757	1693.7	54.5	12.5
43	0.30	0.046	0.004007	1806.6	53.1	11.7
44	0.25	0.039	0.003948	1779.6	53.4	11.9
45	0.20	0.031	0.003937	1774.6	53.5	11.9
47	0.10	0.015	0.003889	1753.4	53.8	12.1
48	0.05	0.008	0.003772	1700.3	54.5	12.5
49	0.00	0.000	0.003662	1651.1	55.1	12.9
50	-0.05	-0.008	0.003584	1615.8	55.6	13.1
52	-0.15	-0.023	0.003252	1466.2	58.0	14.5
54	-0.25	-0.039	0.002850	1284.9	61.7	16.5
55	-0.30	-0.046	0.002784	1255.2	62.3	16.9
56	-0.35	-0.054	0.002776	1251.2	62.5	16.9
60	-0.75	-0.116	0.002508	1130.5	65.7	18.7
62	-1.25	-0.194	0.002062	929.4	73.0	22.8
63	-1.50	-0.232	0.002004	903.5	74.2	23.4
71	-2.50	-0.387	0.002063	930.0	72.9	22.7
72	-3.00	-0.465	0.002056	926.7	73.1	22.8
73	-3.50	-0.542	0.002167	976.8	71.0	21.7
77	-4.00	-0.620	0.002214	998.3	70.1	21.2
81	-4.50	-0.697	0.002173	979.8	70.8	21.6
82	-5.00	-0.775	0.002110	951.3	72.0	22.2
83	-5.50	-0.852	0.002068	932.2	72.7	22.6
87	-6.00	-0.930	0.002133	961.4	71.5	21.9
91	-6.50	-1.007	0.002111	951.8	71.9	22.1
92	-7.00	-1.085	0.002233	1006.5	69.7	20.9
93	-7.50	-1.162	0.002471	1114.0	66.1	19.0

SPANWISE HEAT TRANSFER

RUN: 71 POINT: 2

SYSTEM OF UNITS	TT	U-EXIT	RHD-EXIT	N	Q-NUM	Bx
ENGLISH	31.2	174.8	0.0781	0.01407	0.2850	6.452
SI	-0.4	53.3	1.2515	0.02434	3.2345	16.388

FOR UNITS SEE NOMENCLATURE

S/BX = 0.46497						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
28	4.50	75.0	0.002347	1058.0	68.2	20.1
29	4.00	66.7	0.002500	1127.2	65.9	18.9
30	3.50	58.3	0.002512	1132.3	65.8	18.8
32	2.50	41.7	0.002456	1107.2	66.6	19.2
33	2.00	33.3	0.002323	1047.3	68.5	20.3
34	1.50	25.0	0.002306	1039.6	68.8	20.4

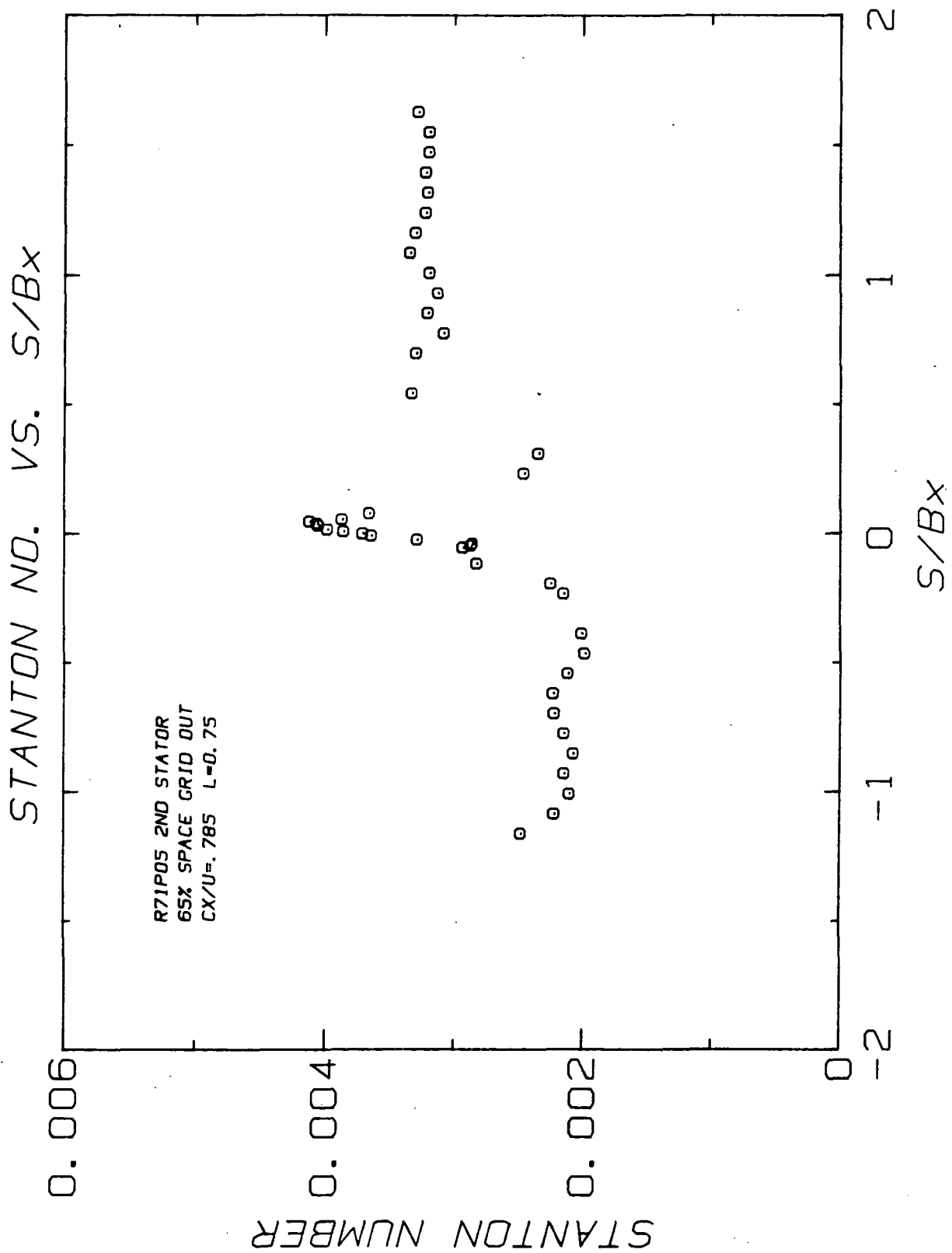
S/BX = 0.92994						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
16	4.50	75.0	0.003038	1369.6	59.9	15.5
17	4.00	66.7	0.003041	1370.7	59.9	15.5
18	3.50	58.3	0.002484	1119.8	66.2	19.0
19	3.00	50.0	0.003239	1460.1	58.2	14.5
20	2.50	41.7	0.003317	1495.4	57.6	14.2
21	2.00	33.3	0.003420	1541.8	56.8	13.8
22	1.50	25.0	0.003488	1572.2	56.3	13.5

S/BX = 1.39492						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
4	4.50	75.0	0.003126	1409.4	59.2	15.1
5	4.00	66.7	0.002893	1304.2	61.4	16.4
6	3.50	58.3	0.003301	1488.1	57.8	14.3
7	3.00	50.0	0.003471	1564.6	56.5	13.6
8	2.50	41.7	0.003315	1494.4	57.7	14.3
9	2.00	33.3	0.003153	1421.5	59.0	15.0
10	1.50	25.0	0.003405	1535.2	57.0	13.9

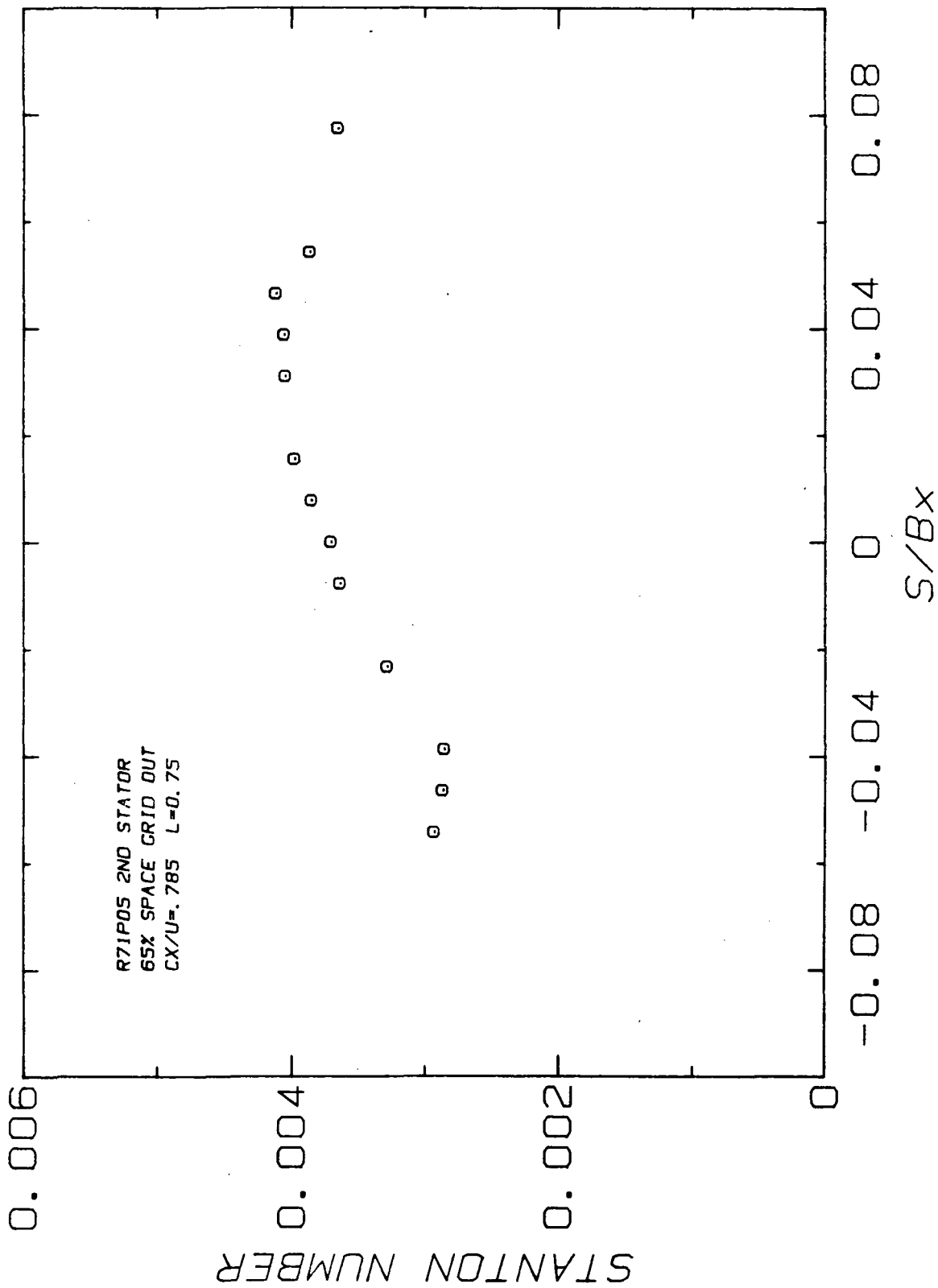
S/BX = -0.30998						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
64	4.50	75.0	0.001742	785.2	80.4	26.9
65	4.00	66.7	0.002135	962.5	71.6	22.0
68	2.50	41.7	0.001977	891.4	74.7	23.7
70	1.50	25.0	0.002137	963.2	71.6	22.0

S/BX = -0.61996						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
75	4.00	66.7	0.002308	1040.5	68.6	20.3
76	3.50	58.3	0.002259	1018.5	69.4	20.8
77	3.00	50.0	0.002214	998.3	70.1	21.2
78	2.50	41.7	0.002161	974.1	71.1	21.7
79	2.00	33.3	0.002268	1022.5	69.2	20.7
80	1.50	25.0	0.002127	959.1	71.7	22.0

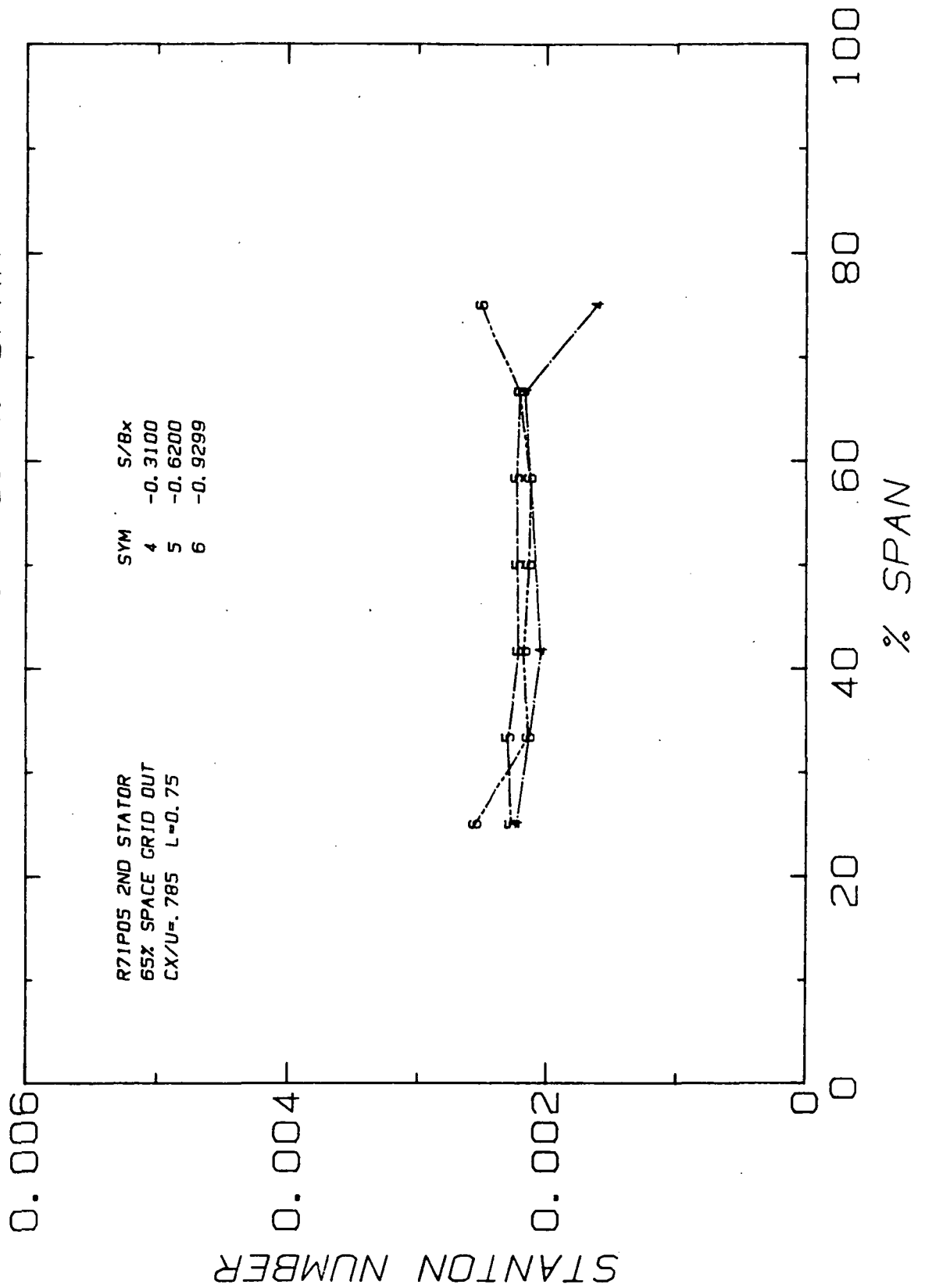
S/BX = -0.92994						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
84	4.50	75.0	0.002705	1219.3	63.2	17.4
85	4.00	66.7	0.002469	1112.9	66.2	19.0
86	3.50	58.3	0.002292	1033.5	68.8	20.4
87	3.00	50.0	0.002133	961.4	71.5	21.9
88	2.50	41.7	0.002114	953.2	71.8	22.1
89	2.00	33.3	0.002087	940.9	72.3	22.4
90	1.50	25.0	0.002713	1223.0	63.1	17.3



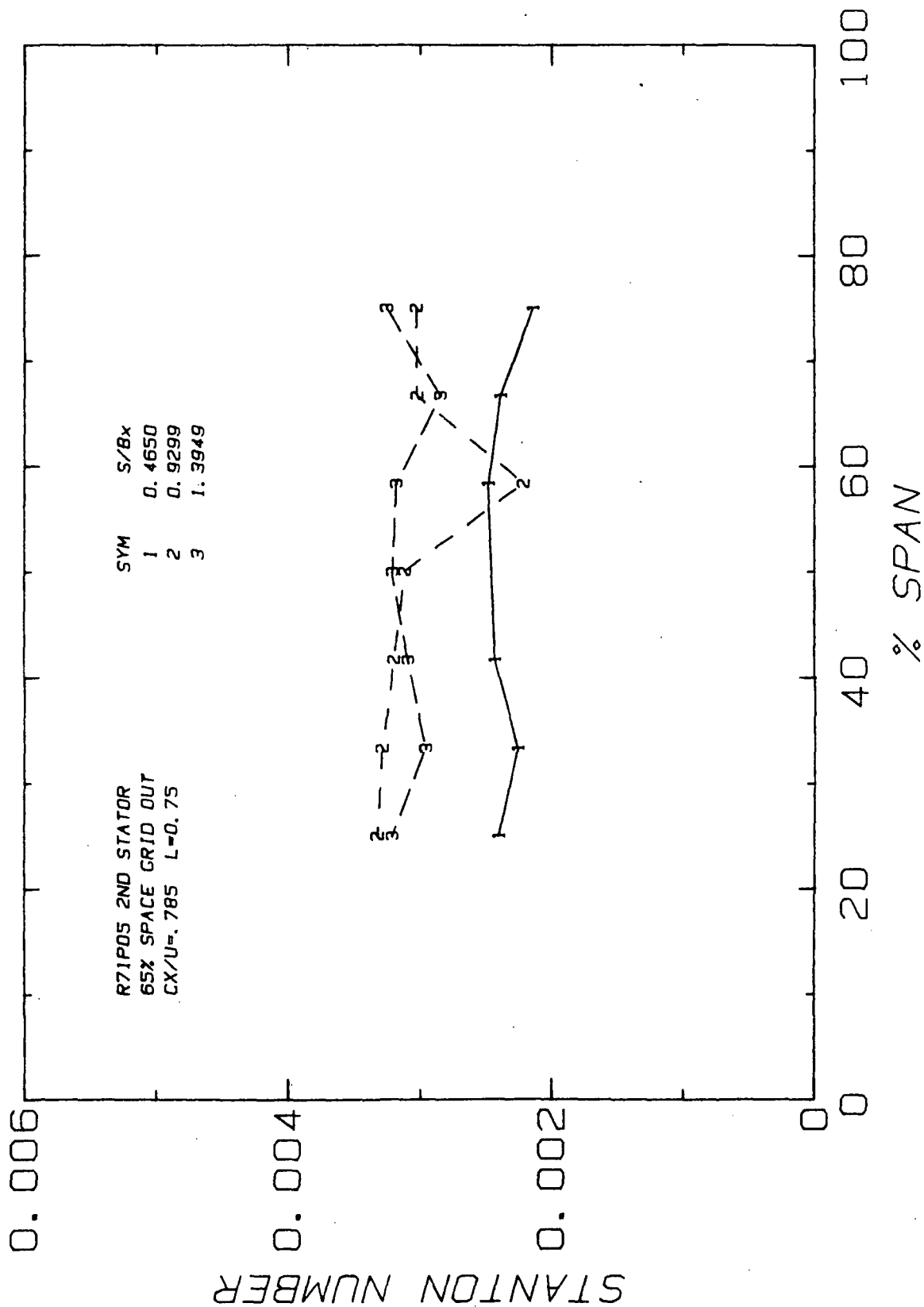
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



ORIGINAL PAGE IS
OF POOR QUALITY

2ND STATOR (L=0.75) CX/U=.785

GRID OUT

65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 71

POINT: 5

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	31.1	176.2	0.0781	0.01407	0.2850	6.452
SI	-0.5	53.7	1.2513	0.02434	3.2345	16.388

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	10.50	1.627	0.003273	1487.9	57.7	14.3
2	10.00	1.550	0.003187	1448.4	58.5	14.7
3	9.50	1.472	0.003186	1448.1	58.5	14.7
7	9.00	1.395	0.003213	1460.7	58.2	14.6
11	8.50	1.317	0.003197	1453.2	58.3	14.6
12	8.00	1.240	0.003213	1460.3	58.2	14.6
13	7.50	1.162	0.003293	1497.0	57.5	14.2
14	7.00	1.085	0.003337	1516.6	57.2	14.0
15	6.50	1.007	0.003184	1447.5	58.4	14.7
19	6.00	0.930	0.003119	1417.8	58.9	15.0
23	5.50	0.852	0.003201	1455.2	58.2	14.6
24	5.00	0.775	0.003072	1396.6	59.3	15.2
25	4.50	0.697	0.003289	1494.8	57.5	14.2
27	3.50	0.542	0.003323	1510.2	57.2	14.0
36	2.00	0.310	0.002335	1061.3	68.0	20.0
37	1.50	0.232	0.002447	1112.5	66.3	19.1
39	0.50	0.077	0.003651	1659.5	54.9	12.7
42	0.35	0.054	0.003862	1755.5	53.6	12.0
43	0.30	0.046	0.004114	1869.8	52.3	11.3
44	0.25	0.039	0.004054	1842.5	52.6	11.4
45	0.20	0.031	0.004044	1838.1	52.6	11.5
47	0.10	0.015	0.003974	1806.4	53.1	11.7
48	0.05	0.008	0.003848	1749.0	53.8	12.1
49	0.00	0.000	0.003700	1681.7	54.6	12.6
50	-0.05	-0.008	0.003632	1650.7	55.1	12.8
52	-0.15	-0.023	0.003276	1489.3	57.6	14.2
54	-0.25	-0.039	0.002848	1294.4	61.4	16.3
55	-0.30	-0.046	0.002859	1299.6	61.3	16.3
56	-0.35	-0.054	0.002924	1328.9	60.6	15.9
60	-0.75	-0.116	0.002815	1279.7	61.7	16.5
62	-1.25	-0.194	0.002239	1017.5	69.5	20.8
63	-1.50	-0.232	0.002138	971.8	71.2	21.8
71	-2.50	-0.387	0.001999	908.6	73.9	23.3
72	-3.00	-0.465	0.001976	898.3	74.3	23.5
73	-3.50	-0.542	0.002109	958.6	71.7	22.0
77	-4.00	-0.620	0.002223	1010.6	69.6	20.9
81	-4.50	-0.697	0.002213	1006.6	69.8	21.0
82	-5.00	-0.775	0.002137	971.2	71.1	21.7
83	-5.50	-0.852	0.002063	937.8	72.5	22.5
87	-6.00	-0.930	0.002136	970.9	71.1	21.7
91	-6.50	-1.007	0.002093	951.2	71.8	22.1
92	-7.00	-1.085	0.002213	1005.9	69.7	20.9
93	-7.50	-1.162	0.002471	1123.1	65.8	18.8

SPANWISE HEAT TRANSFER

RUN: 71 POINT: 5

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	31.1	176.2	0.0781	0.01407	0.2850	6.452
SI	-0.5	53.7	1.2513	0.02434	3.2345	16.388

FOR UNITS SEE NOMENCLATURE

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S/BX = 0.46497

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
28	4.50	75.0	0.002137	971.3	71.3	21.8
29	4.00	66.7	0.002390	1086.6	67.2	19.5
30	3.50	58.3	0.002482	1128.3	65.9	18.8
32	2.50	41.7	0.002426	1102.9	66.6	19.2
33	2.00	33.3	0.002257	1026.0	69.2	20.7
34	1.50	25.0	0.002404	1092.6	67.0	19.4

=====

S/BX = 0.92994

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
16	4.50	75.0	0.003028	1376.6	59.7	15.4
17	4.00	66.7	0.003027	1375.8	59.7	15.4
18	3.50	58.3	0.002213	1006.1	70.0	21.1
19	3.00	50.0	0.003119	1417.8	58.9	15.0
20	2.50	41.7	0.003199	1454.3	58.2	14.6
21	2.00	33.3	0.003294	1497.4	57.5	14.1
22	1.50	25.0	0.003327	1512.1	57.2	14.0

=====

S/BX = 1.39492

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
4	4.50	75.0	0.003252	1478.4	57.9	14.4
5	4.00	66.7	0.002845	1293.3	61.6	16.5
6	3.50	58.3	0.003183	1446.7	58.5	14.7
7	3.00	50.0	0.003213	1460.7	58.2	14.6
8	2.50	41.7	0.003087	1403.4	59.3	15.2
9	2.00	33.3	0.002961	1345.7	60.5	15.8
10	1.50	25.0	0.003214	1460.8	58.2	14.6

=====

S/BX = -0.30998

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
64	4.50	75.0	0.001610	731.9	83.8	28.8
65	4.00	66.7	0.002164	983.6	70.7	21.5
68	2.50	41.7	0.002037	926.0	73.1	22.8
70	1.50	25.0	0.002233	1015.0	69.5	20.8

=====

S/BX = -0.61996

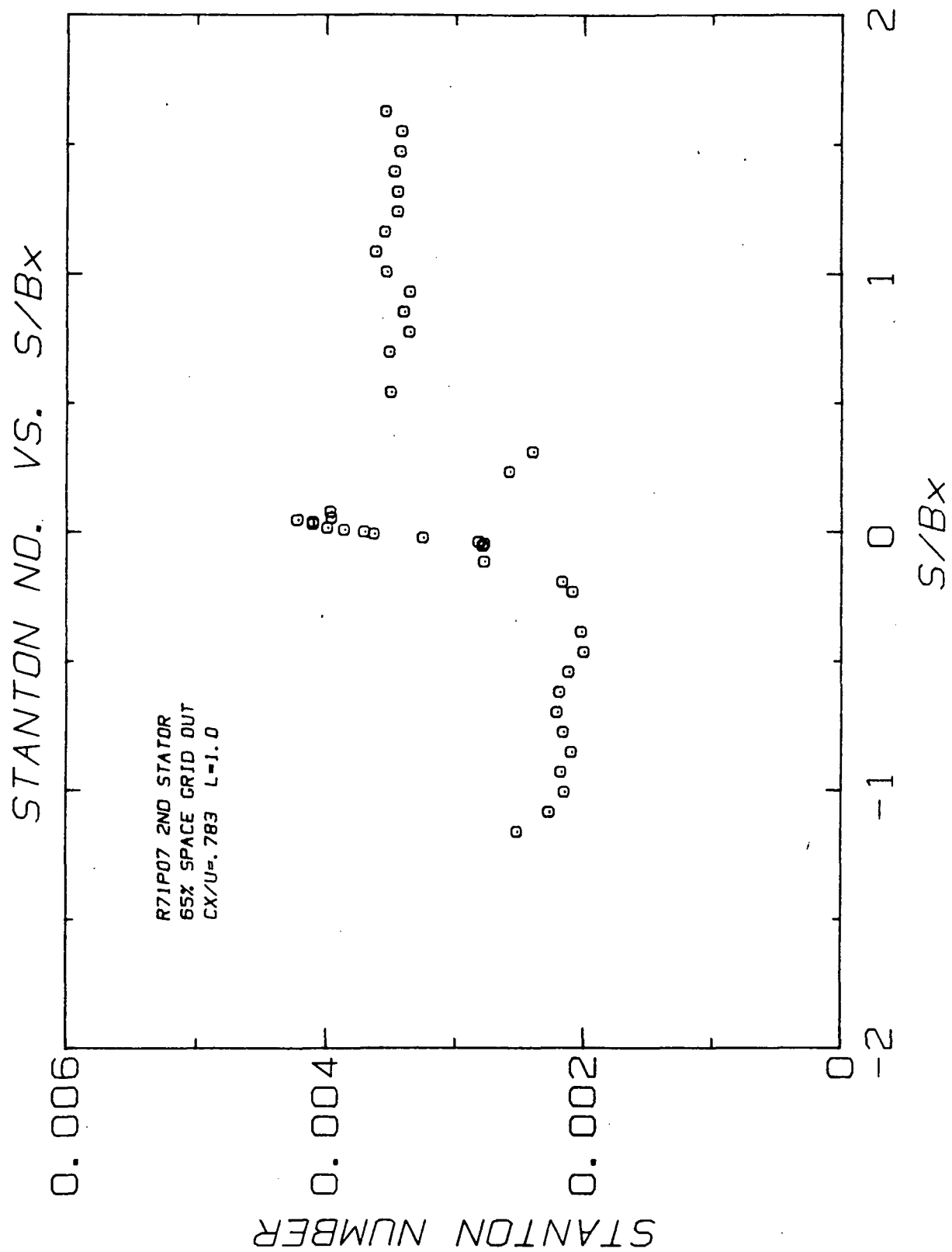
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
75	4.00	66.7	0.002204	1001.8	70.0	21.1
76	3.50	58.3	0.002230	1013.7	69.5	20.8
77	3.00	50.0	0.002223	1010.6	69.6	20.9
78	2.50	41.7	0.002211	1005.1	69.8	21.0
79	2.00	33.3	0.002297	1043.9	68.4	20.2
80	1.50	25.0	0.002275	1033.9	68.8	20.4

=====

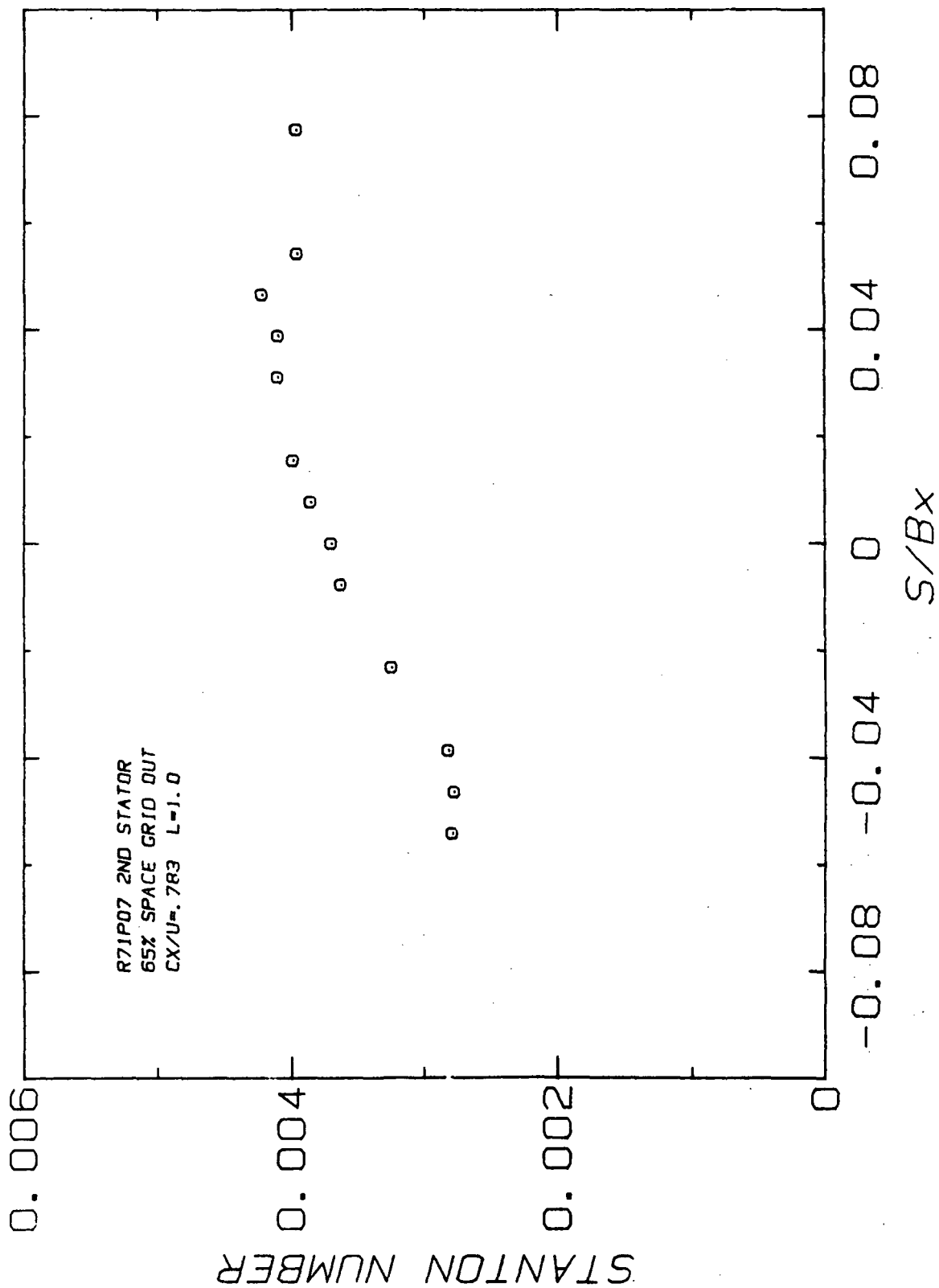
S/BX = -0.92994

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
84	4.50	75.0	0.002514	1142.7	65.3	18.5
85	4.00	66.7	0.002204	1001.6	69.9	21.1
86	3.50	58.3	0.002123	965.2	71.3	21.8
87	3.00	50.0	0.002136	970.9	71.1	21.7
88	2.50	41.7	0.002170	986.4	70.5	21.4
89	2.00	33.3	0.002137	971.4	71.1	21.7
90	1.50	25.0	0.002560	1163.4	64.7	18.2

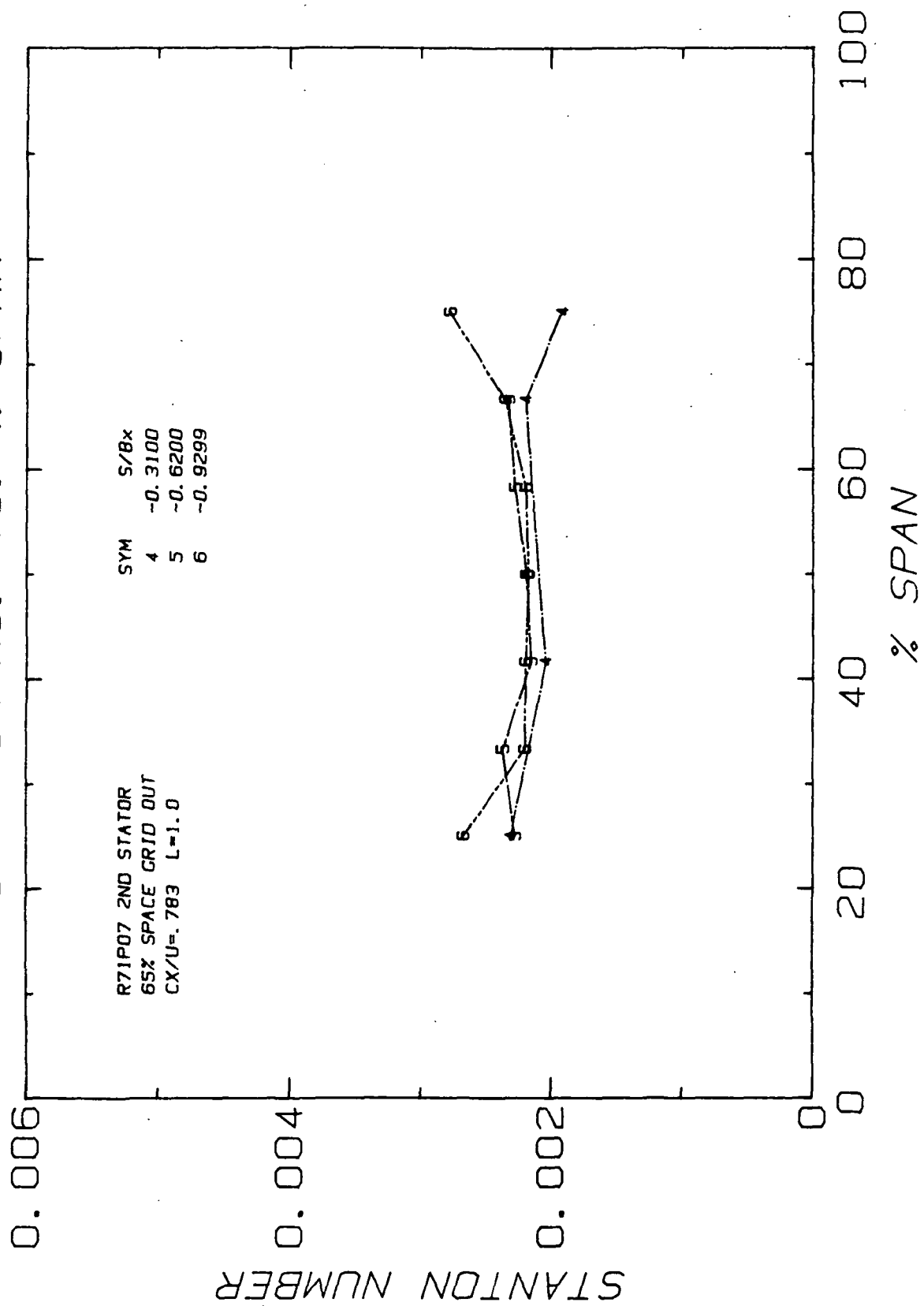
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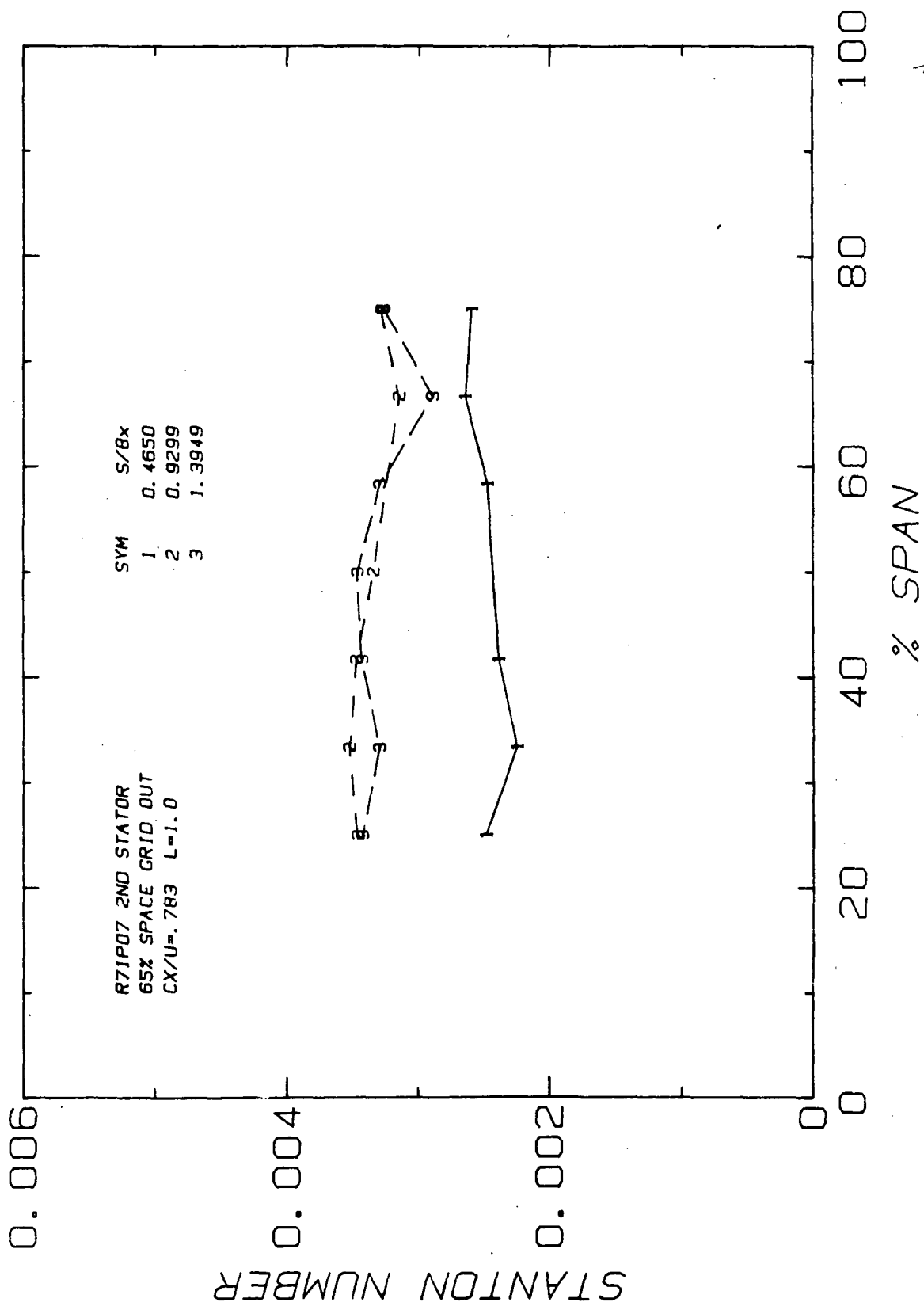
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



ORIGINAL PAGE IS
OF POOR QUALITY

2ND STATOR (L=1.0) CX/U=.783 GRID OUT 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 71 POINT: 7

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	G-NOM	EX
ENGLISH	34.0	175.9	0.0769	0.01420	0.2650	6.452
SI	2.2	53.6	1.2311	0.02456	3.0075	16.388

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/RX	ST	NU	TWALL (F)	TWALL (C)
1	10.50	1.627	0.003535	1563.8	59.4	15.2
2	10.00	1.550	0.003409	1508.2	60.3	15.7
3	9.50	1.472	0.003422	1513.9	60.2	15.7
7	9.00	1.395	0.003469	1534.8	59.9	15.5
11	8.50	1.317	0.003443	1523.1	60.0	15.6
12	8.00	1.240	0.003442	1522.8	60.0	15.6
13	7.50	1.162	0.003541	1566.4	59.3	15.2
14	7.00	1.085	0.003611	1597.6	58.9	14.9
15	6.50	1.007	0.003527	1560.3	59.4	15.2
19	6.00	0.930	0.003347	1480.5	60.6	15.9
23	5.50	0.852	0.003393	1500.9	60.3	15.7
24	5.00	0.775	0.003352	1483.1	60.6	15.9
25	4.50	0.697	0.003506	1550.9	59.5	15.3
27	3.50	0.542	0.003495	1546.1	59.6	15.3
36	2.00	0.310	0.002389	1056.8	70.2	21.2
37	1.50	0.232	0.002572	1137.7	67.8	19.9
39	0.50	0.077	0.003961	1752.3	56.9	13.8
42	0.35	0.054	0.003953	1748.7	56.8	13.8
43	0.30	0.046	0.004218	1866.2	55.6	13.1
44	0.25	0.039	0.004096	1812.0	56.1	13.4
45	0.20	0.031	0.004097	1812.7	56.1	13.4
47	0.10	0.015	0.003985	1763.1	56.7	13.7
48	0.05	0.008	0.003854	1705.1	57.4	14.1
49	0.00	0.000	0.003698	1636.1	58.3	14.6
50	-0.05	-0.008	0.003624	1603.4	58.7	14.8
52	-0.15	-0.023	0.003243	1434.6	61.3	16.3
54	-0.25	-0.039	0.002813	1244.6	65.0	18.3
55	-0.30	-0.046	0.002767	1224.3	65.5	18.6
56	-0.35	-0.054	0.002781	1230.2	65.4	18.5
60	-0.75	-0.116	0.002769	1224.9	65.5	18.6
62	-1.25	-0.194	0.002156	954.0	73.7	23.2
63	-1.50	-0.232	0.002075	918.1	75.2	24.0
71	-2.50	-0.387	0.002011	889.8	76.3	24.6
72	-3.00	-0.465	0.001990	880.3	76.7	24.8
73	-3.50	-0.542	0.002109	933.0	74.4	23.6
77	-4.00	-0.620	0.002184	966.3	73.1	22.9
81	-4.50	-0.697	0.002202	974.2	72.8	22.7
82	-5.00	-0.775	0.002152	952.0	73.6	23.1
83	-5.50	-0.852	0.002088	923.7	74.7	23.7
87	-6.00	-0.930	0.002171	960.3	73.3	22.9
91	-6.50	-1.007	0.002141	947.3	73.7	23.2
92	-7.00	-1.085	0.002261	1000.3	71.8	22.1
93	-7.50	-1.162	0.002509	1109.9	68.4	20.2

2ND STATOR (L=1.0) CX/U=.783

GRID OUT

65% SPACING

SPANWISE HEAT TRANSFER

RUN: 71 POINT: 7

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	36.0	175.9	0.0769	0.01420	0.2650	3.450
SI	2.2	53.6	1.2311	0.02456	3.0075	16.388

FOR UNITS SEE NOMENCLATURE

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S/BX = 0.46497

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
28	4.50	75.0	0.002594	1147.7	67.6	19.8
29	4.00	66.7	0.002641	1168.4	67.0	19.5
30	3.50	58.3	0.002473	1094.0	69.1	20.6
32	2.50	41.7	0.002383	1054.2	70.3	21.3
33	2.00	33.3	0.002243	992.2	72.4	22.4
34	1.50	25.0	0.002484	1098.8	68.9	20.5

=====

S/BX = 0.92994

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
16	4.50	75.0	0.003284	1453.0	61.1	16.2
17	4.00	66.7	0.003154	1395.2	62.1	16.7
19	3.00	50.0	0.003347	1480.5	60.6	15.9
20	2.50	41.7	0.003476	1537.8	59.7	15.4
21	2.00	33.3	0.003529	1561.2	59.4	15.2
22	1.50	25.0	0.003464	1532.6	59.8	15.5

=====

S/BX = 1.39492

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
4	4.50	75.0	0.003264	1443.9	61.3	16.3
5	4.00	66.7	0.002890	1278.7	64.5	18.1
6	3.50	58.3	0.003299	1459.3	61.1	16.1
7	3.00	50.0	0.003469	1534.8	59.9	15.5
8	2.50	41.7	0.003429	1517.2	60.1	15.6
9	2.00	33.3	0.003295	1457.7	61.1	16.2
10	1.50	25.0	0.003428	1516.7	60.1	15.6

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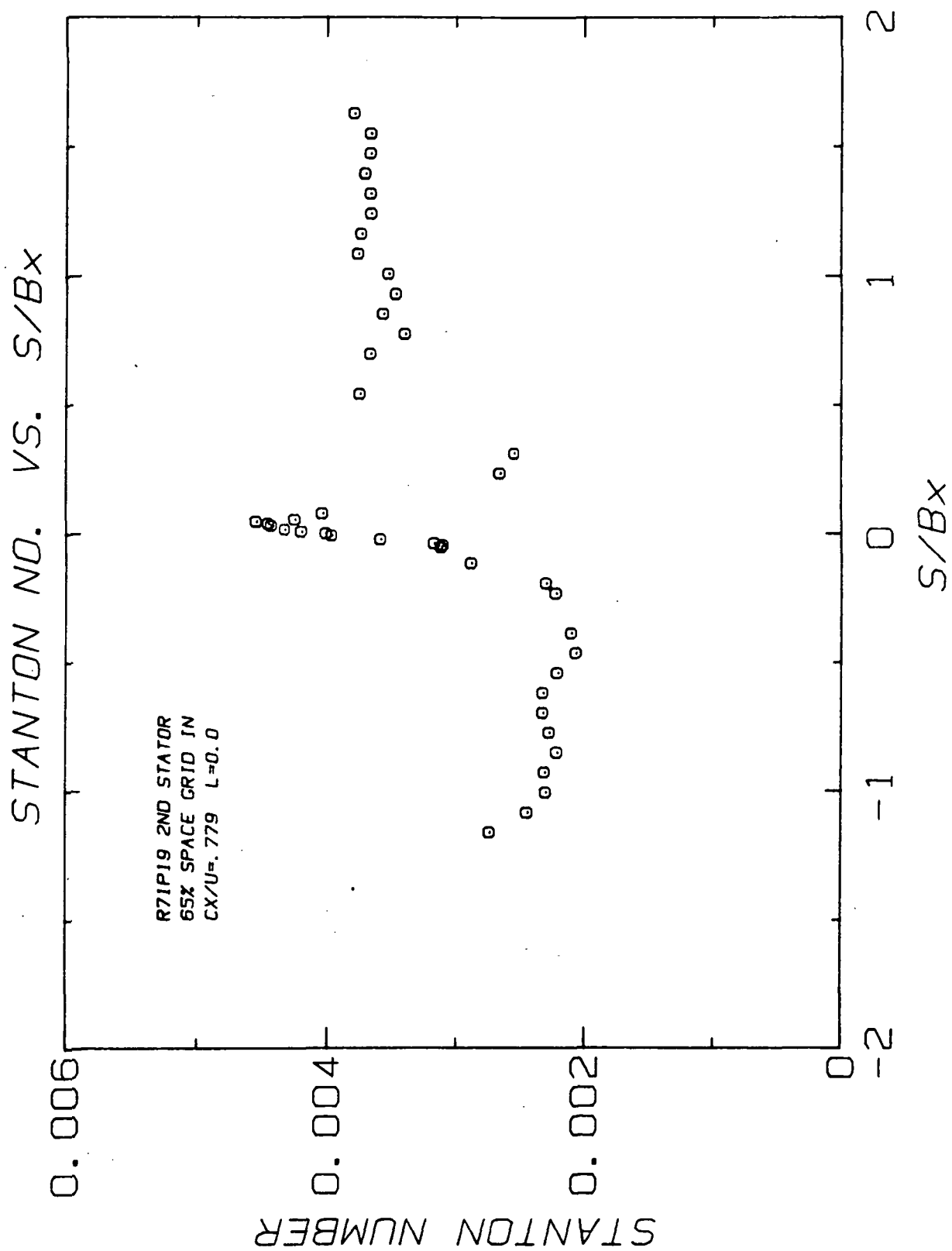
S/BX = -0.30998

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
64	4.50	75.0	0.001913	846.3	78.3	25.7
65	4.00	66.7	0.002194	970.4	73.0	22.8
68	2.50	41.7	0.002038	901.7	75.8	24.3
70	1.50	25.0	0.002307	1020.8	71.3	21.8

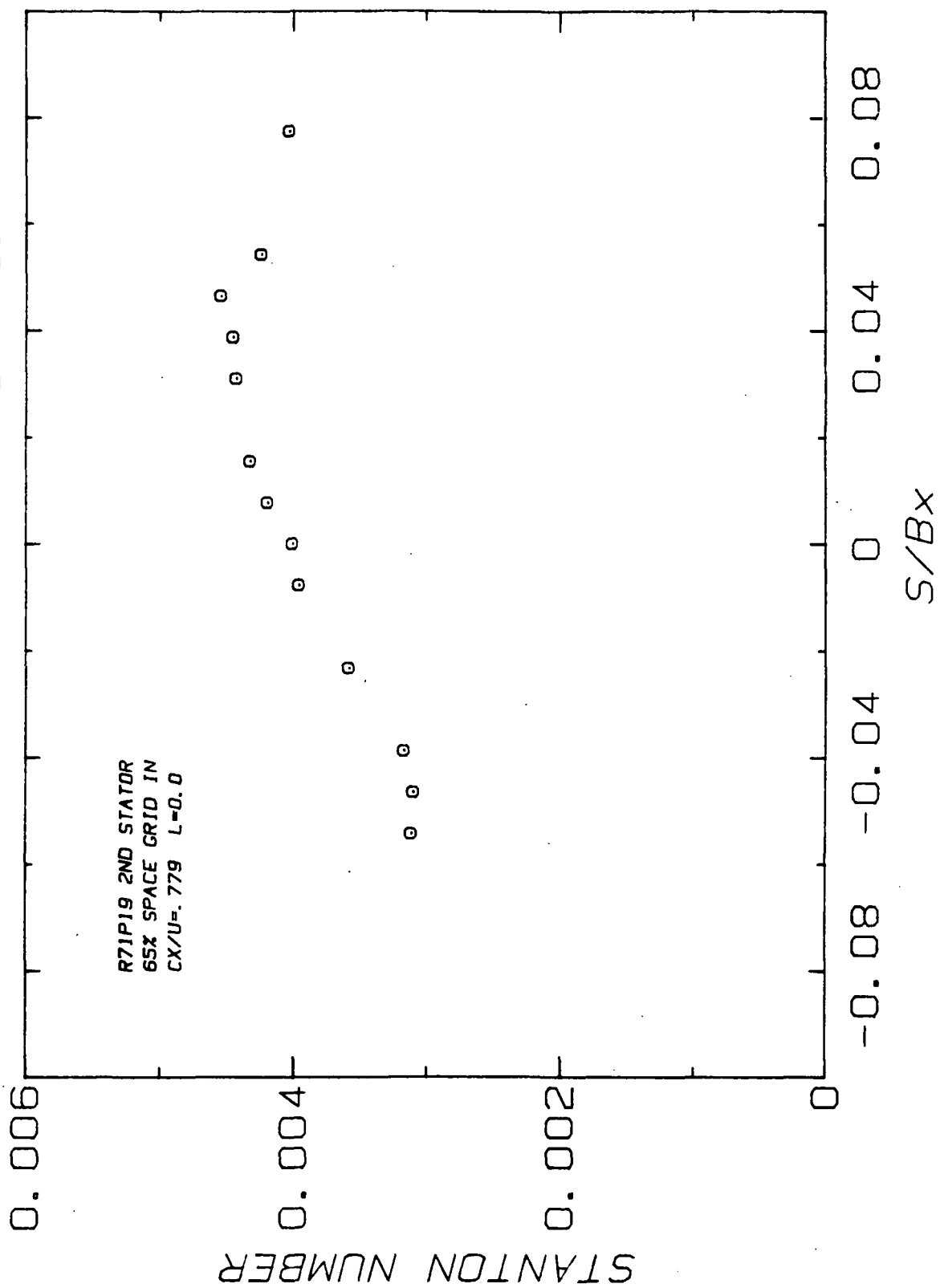
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S/BX = -0.92994

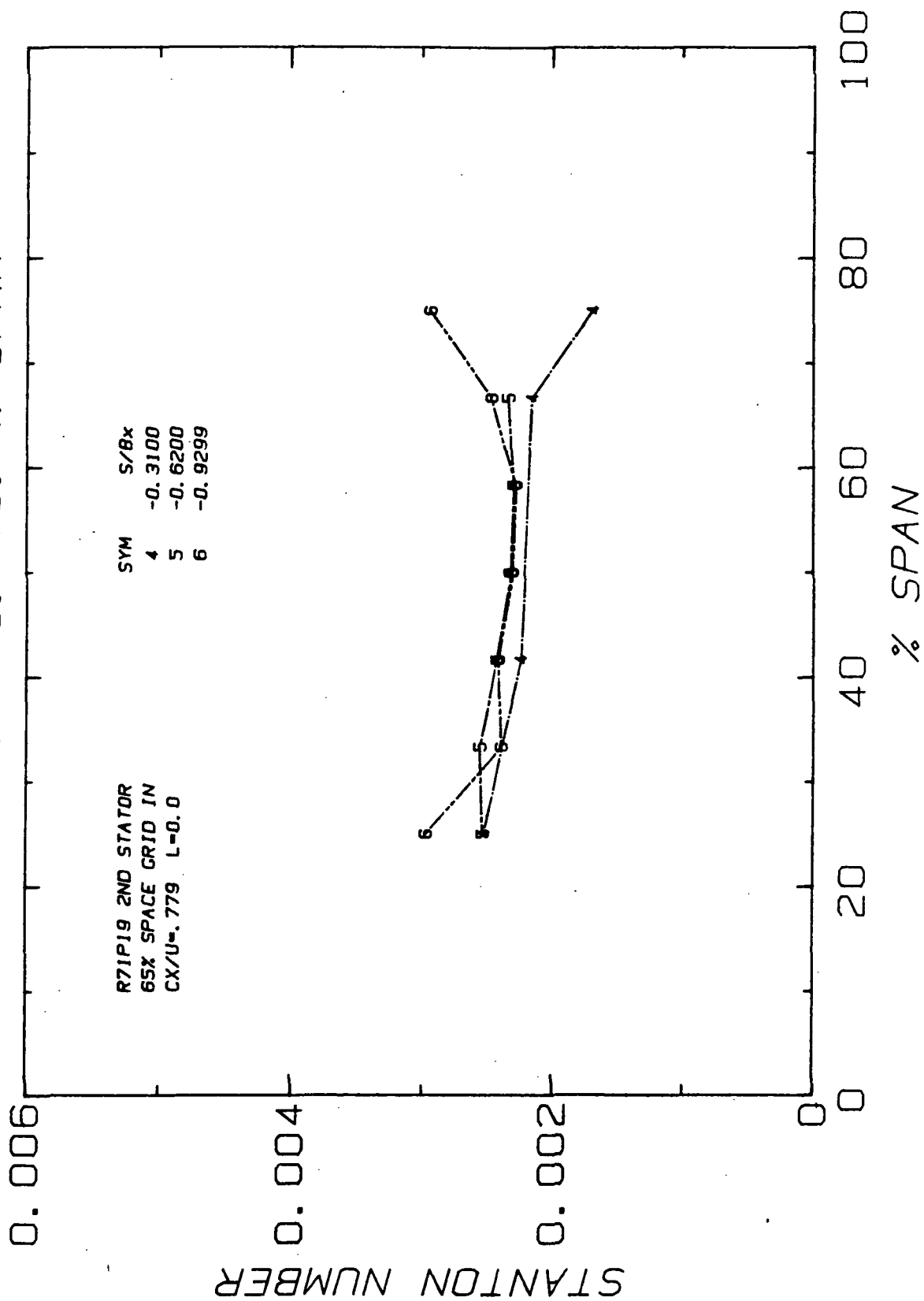
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
84	4.50	75.0	0.002781	1230.2	65.4	18.5
85	4.00	66.7	0.002349	1039.1	70.6	21.4
86	3.50	58.3	0.002188	968.0	73.0	22.8
87	3.00	50.0	0.002171	960.3	73.3	22.9
88	2.50	41.7	0.002194	970.5	72.9	22.7
89	2.00	33.3	0.002195	971.2	72.9	22.7
90	1.50	25.0	0.002677	1184.6	66.4	19.1



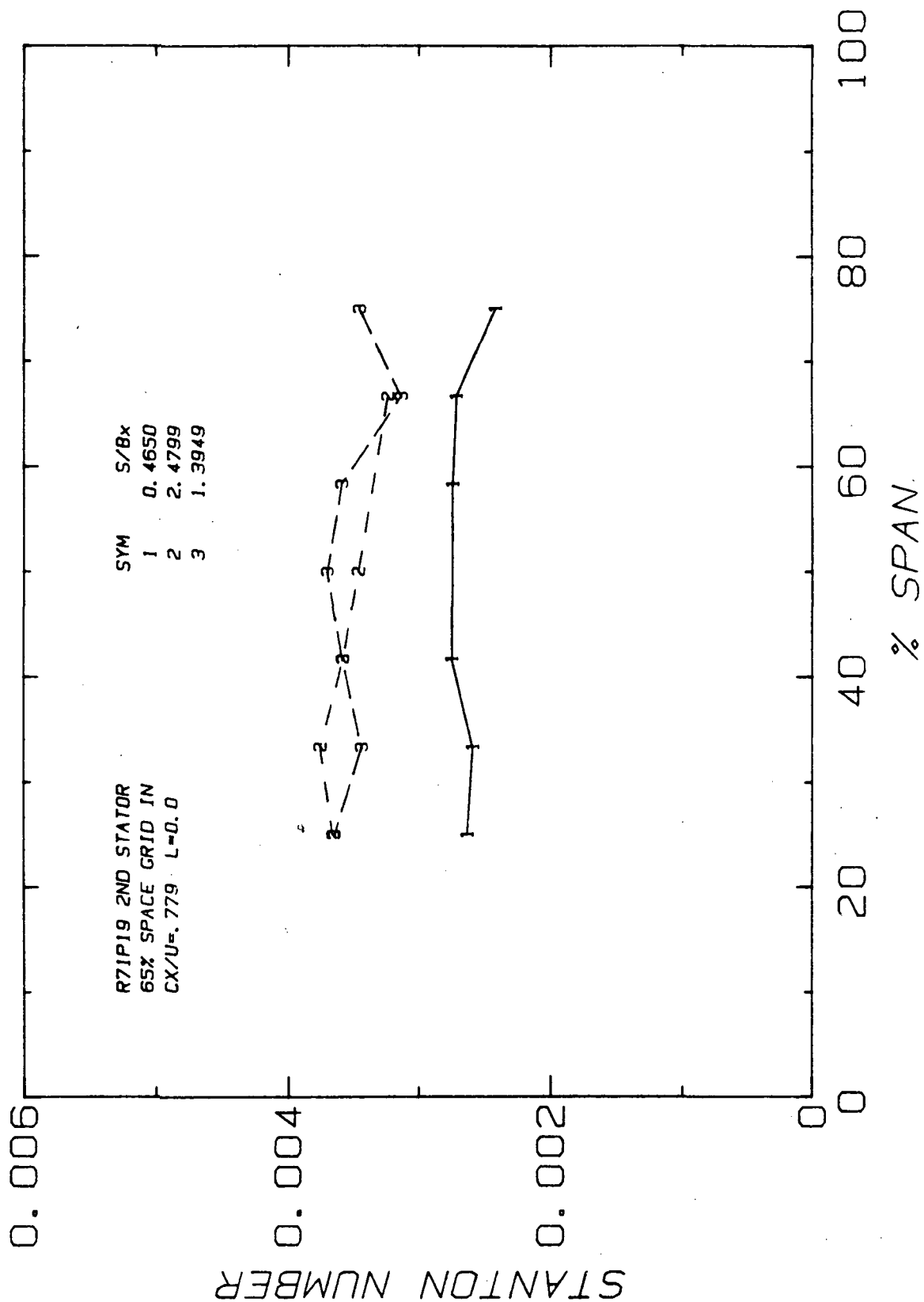
BLOW-UP OF STANTON NO.



STANTON NO. VS. % SPAN



STANTON NO. VS. % SPAN



ORIGINAL PAGE IS
OF POOR QUALITY

2ND STATOR (L=0.0) CX/U=.779 GRID IN 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 71 POINT: 19

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	28.3	174.9	0.0779	0.01400	0.2960	6.452
SI	-2.1	53.3	1.2475	0.02421	3.3593	16.388

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	10.50	1.627	0.003786	1710.8	52.5	11.4
2	10.00	1.550	0.003657	1652.0	53.4	11.9
3	9.50	1.472	0.003660	1654.0	53.3	11.9
7	9.00	1.395	0.003700	1672.1	53.0	11.7
11	8.50	1.317	0.003657	1652.7	53.3	11.8
12	8.00	1.240	0.003652	1650.5	53.3	11.8
13	7.50	1.162	0.003730	1685.8	52.8	11.5
14	7.00	1.085	0.003755	1696.0	52.6	11.4
15	6.50	1.007	0.003516	1589.1	54.2	12.3
19	6.00	0.930	0.003461	1564.3	54.6	12.5
23	5.50	0.852	0.003563	1610.1	53.8	12.1
24	5.00	0.775	0.003390	1531.8	55.1	12.8
25	4.50	0.697	0.003660	1653.9	53.1	11.7
27	3.50	0.542	0.003742	1691.2	52.6	11.4
36	2.00	0.310	0.002537	1146.4	63.9	17.7
37	1.50	0.232	0.002655	1200.0	62.3	16.9
39	0.50	0.077	0.004027	1819.9	50.9	10.5
42	0.35	0.054	0.004241	1916.8	49.8	9.9
43	0.30	0.046	0.004547	2054.9	48.4	9.1
44	0.25	0.039	0.004454	2012.9	48.8	9.3
45	0.20	0.031	0.004432	2002.9	48.9	9.4
47	0.10	0.015	0.004321	1952.9	49.5	9.7
48	0.05	0.008	0.004191	1894.1	50.2	10.1
49	0.00	0.000	0.004001	1808.2	51.2	10.6
50	-0.05	-0.008	0.003955	1787.4	51.4	10.8
52	-0.15	-0.023	0.003577	1616.5	53.8	12.1
54	-0.25	-0.039	0.003160	1428.0	57.0	13.9
55	-0.30	-0.046	0.003090	1396.5	57.6	14.2
56	-0.35	-0.054	0.003105	1403.3	57.4	14.1
60	-0.75	-0.116	0.002875	1299.3	59.7	15.4
62	-1.25	-0.194	0.002288	1034.2	67.6	19.8
63	-1.50	-0.232	0.002213	999.9	69.0	20.5
71	-2.50	-0.387	0.002092	945.3	71.2	21.8
72	-3.00	-0.465	0.002055	928.8	71.9	22.2
73	-3.50	-0.542	0.002201	994.7	69.1	20.6
77	-4.00	-0.620	0.002313	1045.4	67.1	19.5
81	-4.50	-0.697	0.002314	1045.6	67.1	19.5
82	-5.00	-0.775	0.002263	1022.6	67.9	20.0
83	-5.50	-0.852	0.002204	995.8	69.0	20.5
87	-6.00	-0.930	0.002299	1039.1	67.3	19.6
91	-6.50	-1.007	0.002289	1034.4	67.5	19.7
92	-7.00	-1.085	0.002435	1100.6	65.2	18.4
93	-7.50	-1.162	0.002734	1235.4	61.3	16.3

2ND STATOR (L=0.0) CX/U=.779 GRID IN 65% SPACING

SPANWISE HEAT TRANSFER

RUN: 71 POINT: 19

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	28.3	174.9	0.0779	0.01400	0.2960	6.452
SI	-2.1	53.3	1.2475	0.02421	3.3593	16.388

FOR UNITS SEE NOMENCLATURE

=====

S/BX = 0.46497

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
28	4.50	75.0	0.002416	1091.9	65.7	18.7
29	4.00	66.7	0.002710	1224.9	61.7	16.5
30	3.50	58.3	0.002740	1238.4	61.3	16.3
32	2.50	41.7	0.002745	1240.8	61.3	16.3
33	2.00	33.3	0.002587	1169.2	63.2	17.4
34	1.50	25.0	0.002630	1188.8	62.7	17.0

=====

S/BX = 2.47985

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
17	4.00	66.7	0.003236	1462.6	56.4	13.5
19	3.00	50.0	0.003461	1564.3	54.6	12.5
20	2.50	41.7	0.003579	1617.4	53.7	12.1
21	2.00	33.3	0.003754	1696.5	52.6	11.4
22	1.50	25.0	0.003657	1652.9	53.2	11.8

=====

S/BX = 1.39492

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
4	4.50	75.0	0.003454	1561.0	54.8	12.6
5	4.00	66.7	0.003130	1414.6	57.4	14.1
6	3.50	58.3	0.003589	1621.9	53.8	12.1
7	3.00	50.0	0.003700	1672.1	53.0	11.7
8	2.50	41.7	0.003581	1618.4	53.8	12.1
9	2.00	33.3	0.003435	1552.1	54.9	12.7
10	1.50	25.0	0.003645	1647.5	53.4	11.9

=====

S/BX = -0.30998

TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
64	4.50	75.0	0.001688	763.0	81.0	27.2
65	4.00	66.7	0.002156	974.4	69.9	21.1
68	2.50	41.7	0.002236	1010.5	68.5	20.3
70	1.50	25.0	0.002526	1141.4	64.0	17.8

=====

S/BX = -0.61996

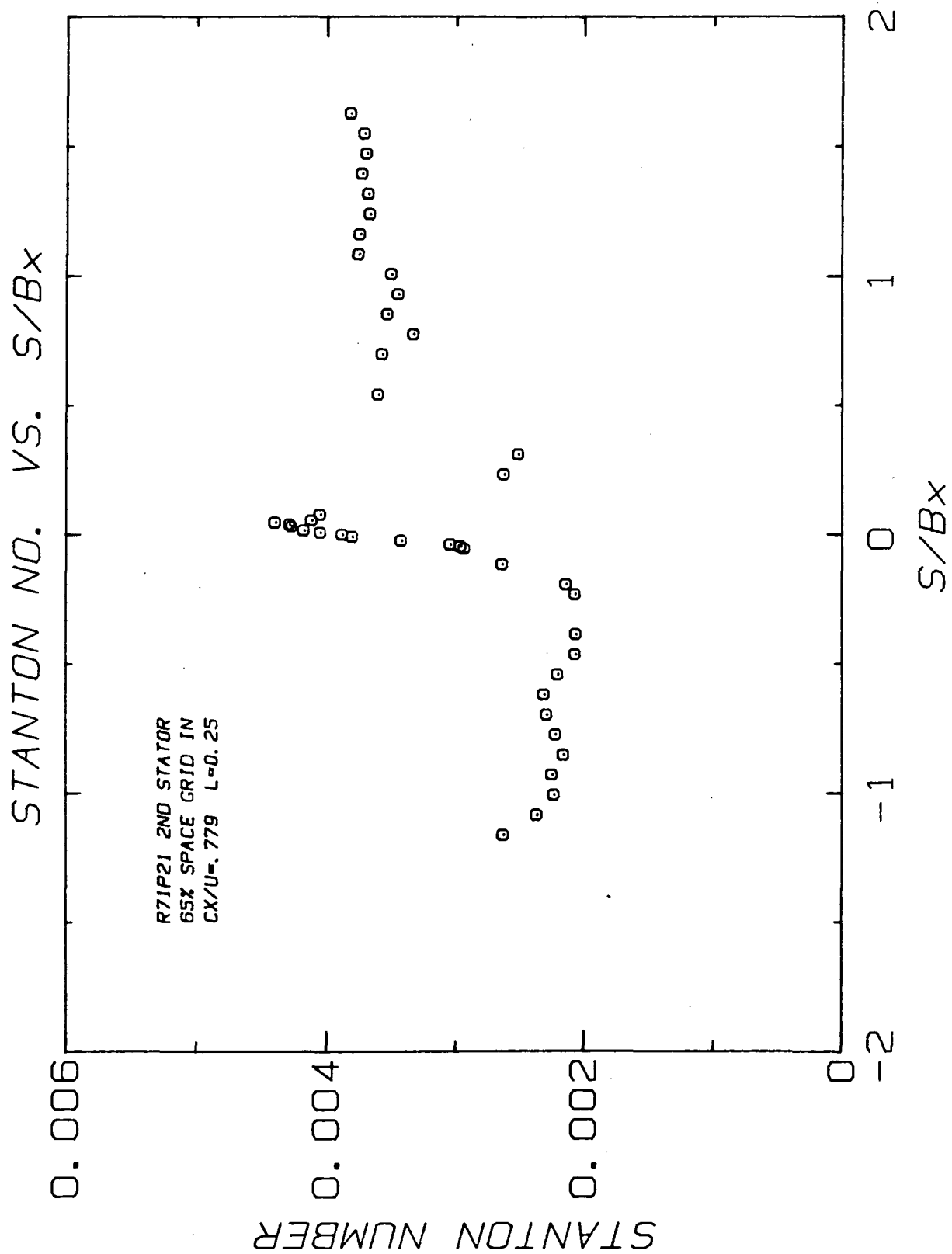
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
75	4.00	66.7	0.002333	1054.4	66.8	19.3
76	3.50	58.3	0.002293	1036.2	67.5	19.7
77	3.00	50.0	0.002313	1045.4	67.1	19.5
78	2.50	41.7	0.002424	1095.6	65.4	18.6
79	2.00	33.3	0.002554	1154.2	63.6	17.5
80	1.50	25.0	0.002532	1144.1	63.9	17.7

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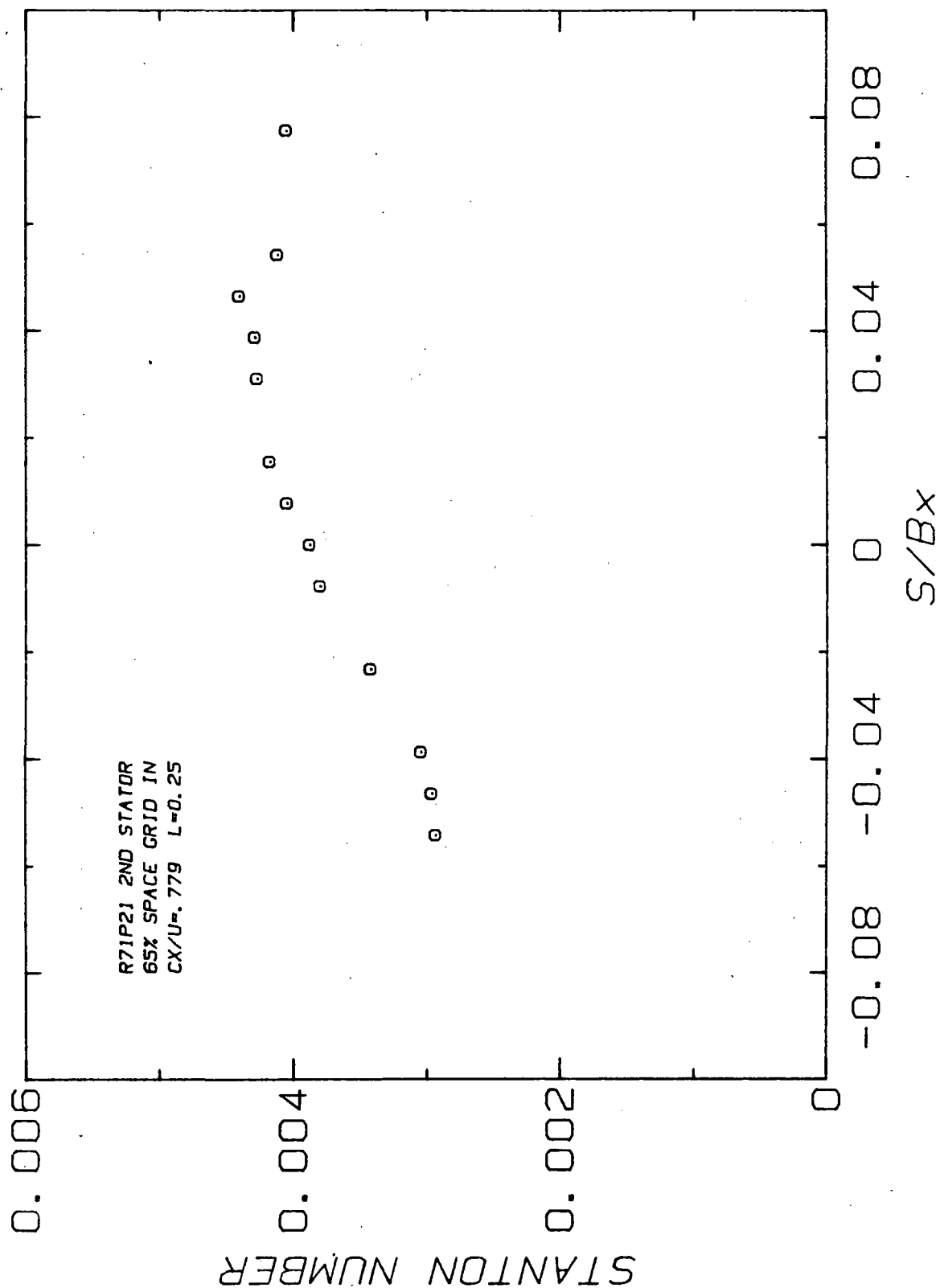
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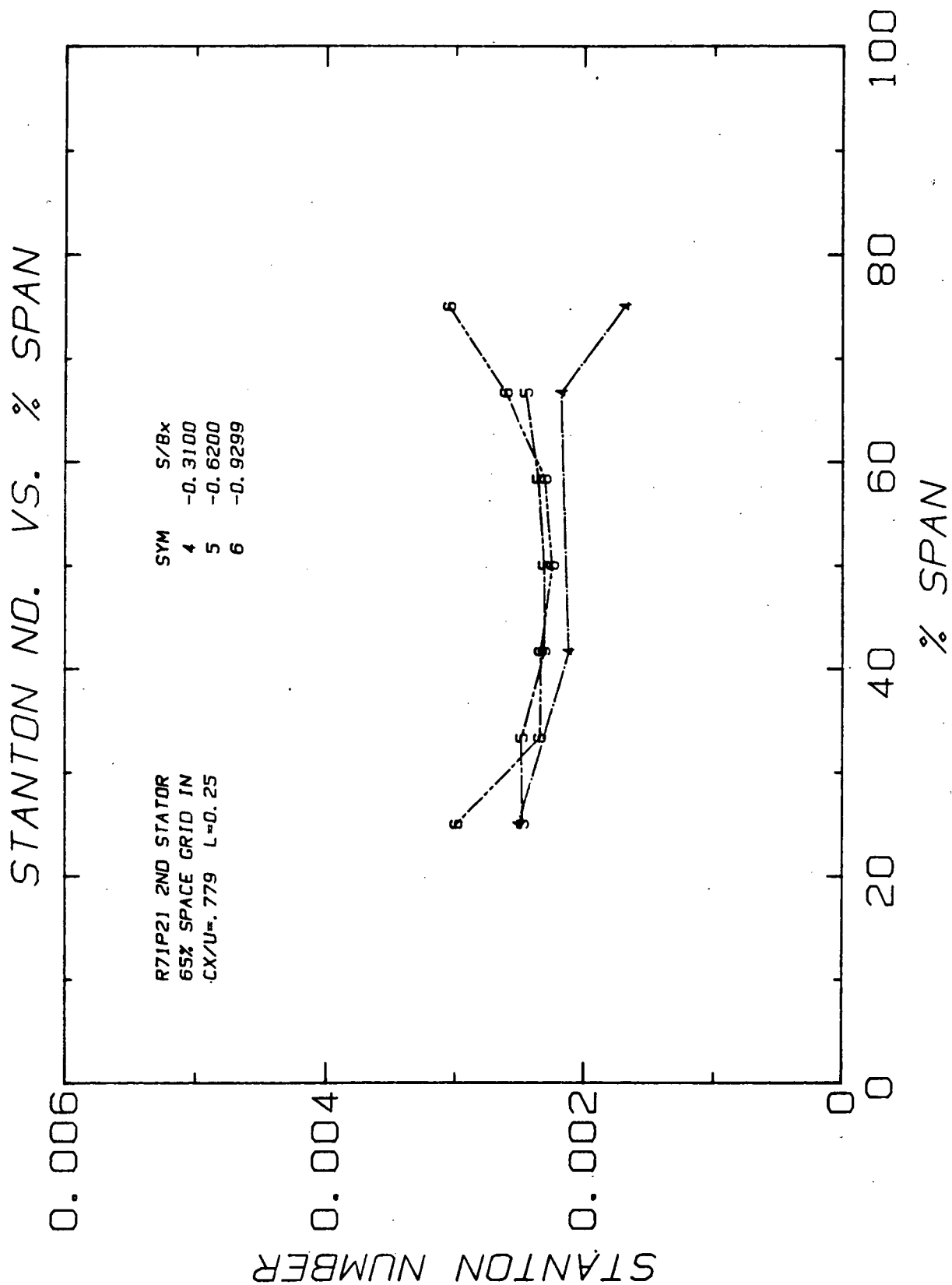
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
84	4.50	75.0	0.002933	1325.6	59.1	15.1
85	4.00	66.7	0.002465	1114.2	64.8	18.2
86	3.50	58.3	0.002278	1029.6	67.7	19.8
87	3.00	50.0	0.002299	1039.1	67.3	19.6
88	2.50	41.7	0.002408	1088.0	65.6	18.7
89	2.00	33.3	0.002386	1078.4	65.9	18.9
90	1.50	25.0	0.002965	1340.0	58.8	14.9

=====

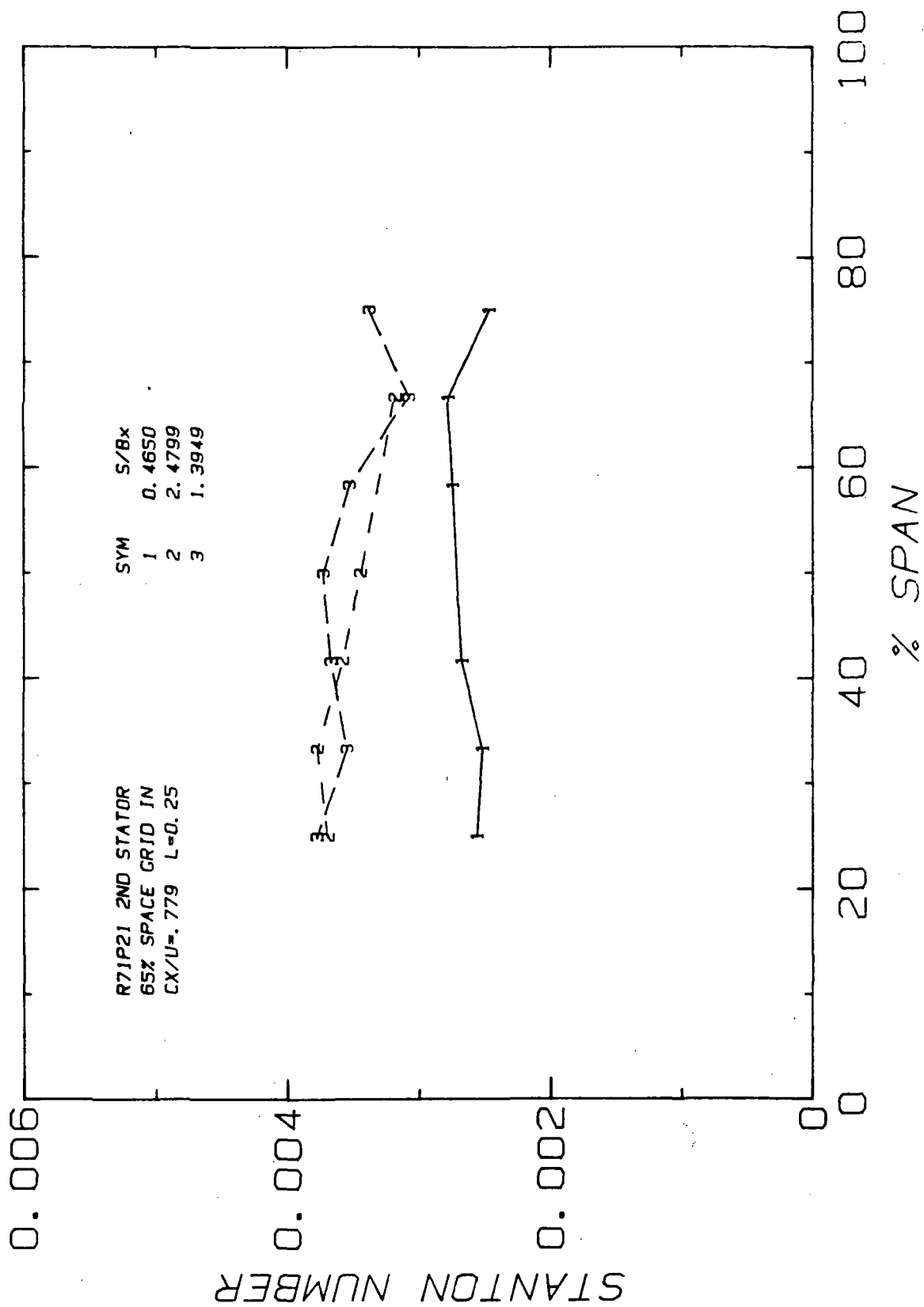


BLOW-UP OF STANTON NO.





STANTON NO. VS. % SPAN



ORIGINAL PAGE IS
OF POOR QUALITY

2ND STATOR (L=0.25) CX/U=.779

GRID IN

65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 71 POINT: 21

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	30.7	174.7	0.0775	0.01406	0.2810	6.452
SI	-0.7	53.2	1.2417	0.02432	3.1891	16.388

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	10.50	1.627	0.003809	1703.9	53.7	12.1
2	10.00	1.550	0.003703	1656.4	54.3	12.4
3	9.50	1.472	0.003687	1649.5	54.5	12.5
7	9.00	1.395	0.003724	1665.7	54.2	12.3
11	8.50	1.317	0.003674	1643.7	54.5	12.5
12	8.00	1.240	0.003662	1638.4	54.5	12.5
13	7.50	1.162	0.003742	1673.8	54.0	12.2
14	7.00	1.085	0.003750	1677.6	53.9	12.2
15	6.50	1.007	0.003493	1562.6	55.6	13.1
19	6.00	0.930	0.003442	1539.6	55.9	13.3
23	5.50	0.852	0.003525	1576.8	55.4	13.0
24	5.00	0.775	0.003322	1486.1	56.8	13.8
25	4.50	0.697	0.003567	1595.5	55.1	12.8
27	3.50	0.542	0.003598	1609.5	54.8	12.7
36	2.00	0.310	0.002509	1122.3	65.1	18.4
37	1.50	0.232	0.002622	1173.0	63.6	17.5
39	0.50	0.077	0.004042	1808.4	52.3	11.3
42	0.35	0.054	0.004110	1838.4	51.9	11.0
43	0.30	0.046	0.004396	1966.7	50.5	10.3
44	0.25	0.039	0.004280	1914.6	51.0	10.6
45	0.20	0.031	0.004263	1906.9	51.1	10.6
47	0.10	0.015	0.004168	1864.5	51.7	10.9
48	0.05	0.008	0.004039	1807.0	52.3	11.3
49	0.00	0.000	0.003870	1731.4	53.2	11.8
50	-0.05	-0.008	0.003794	1697.0	53.7	12.0
52	-0.15	-0.023	0.003416	1528.3	56.1	13.4
54	-0.25	-0.039	0.003035	1357.9	59.1	15.1
55	-0.30	-0.046	0.002956	1322.4	59.9	15.5
56	-0.35	-0.054	0.002927	1309.2	60.2	15.6
60	-0.75	-0.116	0.002636	1179.1	63.3	17.4
62	-1.25	-0.194	0.002129	952.5	71.0	21.6
63	-1.50	-0.232	0.002059	920.9	72.3	22.4
71	-2.50	-0.387	0.002052	918.0	72.4	22.4
72	-3.00	-0.465	0.002058	920.6	72.2	22.3
73	-3.50	-0.542	0.002197	982.8	69.7	20.9
77	-4.00	-0.620	0.002304	1030.7	67.9	19.9
81	-4.50	-0.697	0.002282	1020.9	68.2	20.1
82	-5.00	-0.775	0.002211	989.1	69.4	20.8
83	-5.50	-0.852	0.002150	962.0	70.4	21.3
87	-6.00	-0.930	0.002241	1002.7	68.8	20.5
91	-6.50	-1.007	0.002226	995.6	69.1	20.6
92	-7.00	-1.085	0.002361	1056.4	66.9	19.4
93	-7.50	-1.162	0.002628	1175.4	63.4	17.4

SPANWISE HEAT TRANSFER

RUN: /1 POINT: 21

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	30.7	174.7	0.0775	0.01406	0.2810	6.452
SI	-0.7	53.2	1.2417	0.02432	3.1891	16.388

FOR UNITS SEE NOMENCLATURE

ORIGINAL PAGE IS
OF POOR QUALITY

S/BX = 0.46497						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
28	4.50	75.0	0.002468	1104.0	65.6	18.7
29	4.00	66.7	0.002780	1243.6	61.8	16.6
30	3.50	58.3	0.002742	1226.5	62.2	16.8
32	2.50	41.7	0.002673	1195.7	63.0	17.2
33	2.00	33.3	0.002514	1124.6	65.0	18.3
34	1.50	25.0	0.002559	1144.9	64.4	18.0

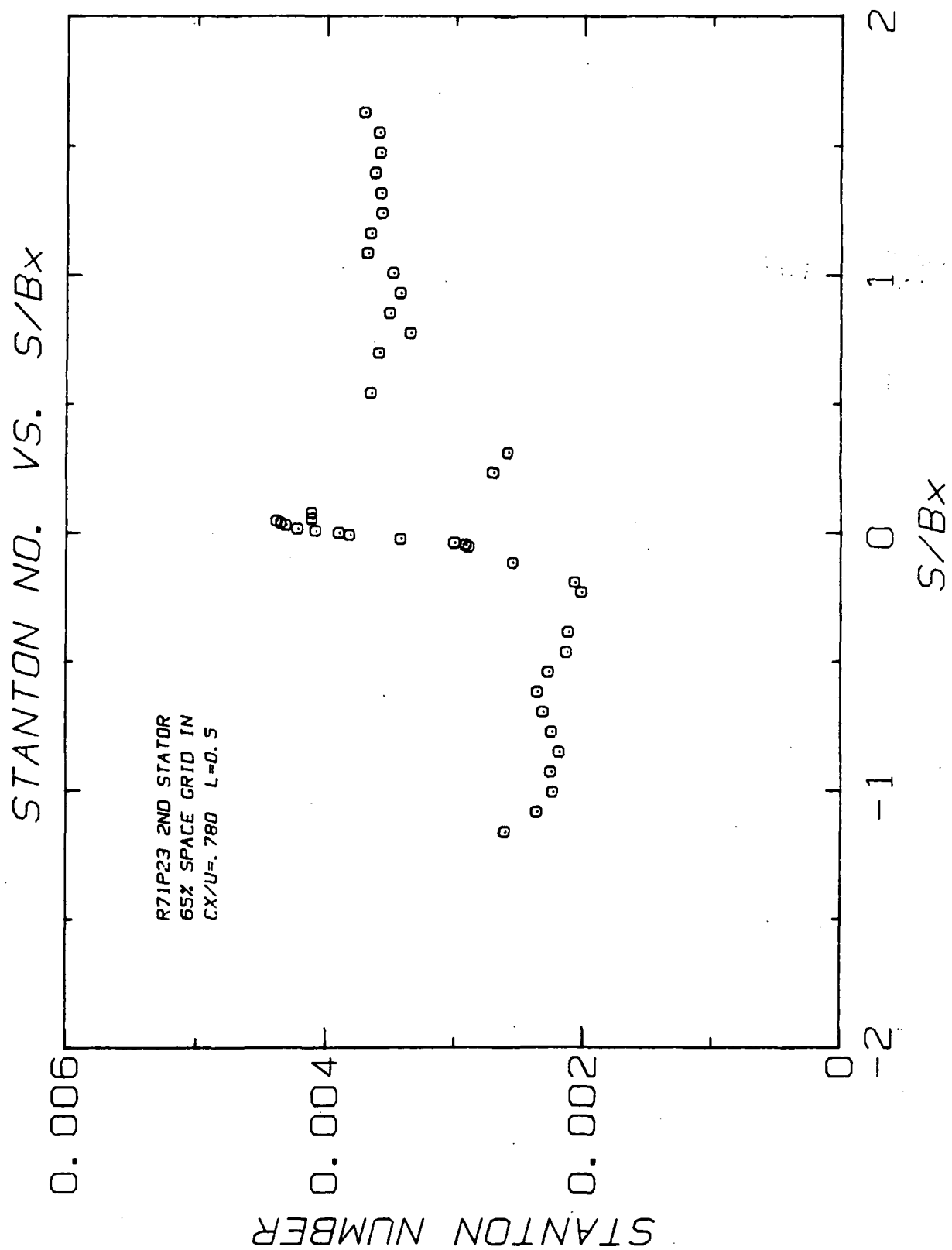
S/BX = 2.47985						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
17	4.00	66.7	0.003181	1423.0	58.0	14.4
19	3.00	50.0	0.003442	1539.6	55.9	13.3
20	2.50	41.7	0.003578	1600.5	55.0	12.8
21	2.00	33.3	0.003767	1685.0	53.8	12.1
22	1.50	25.0	0.003689	1650.5	54.3	12.4

S/BX = 1.39492						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
4	4.50	75.0	0.003376	1510.0	56.5	13.6
5	4.00	66.7	0.003078	1377.0	59.0	15.0
6	3.50	58.3	0.003524	1576.7	55.5	13.0
7	3.00	50.0	0.003724	1665.7	54.2	12.3
8	2.50	41.7	0.003666	1639.8	54.6	12.5
9	2.00	33.3	0.003539	1583.4	55.4	13.0
10	1.50	25.0	0.003774	1688.2	53.9	12.2

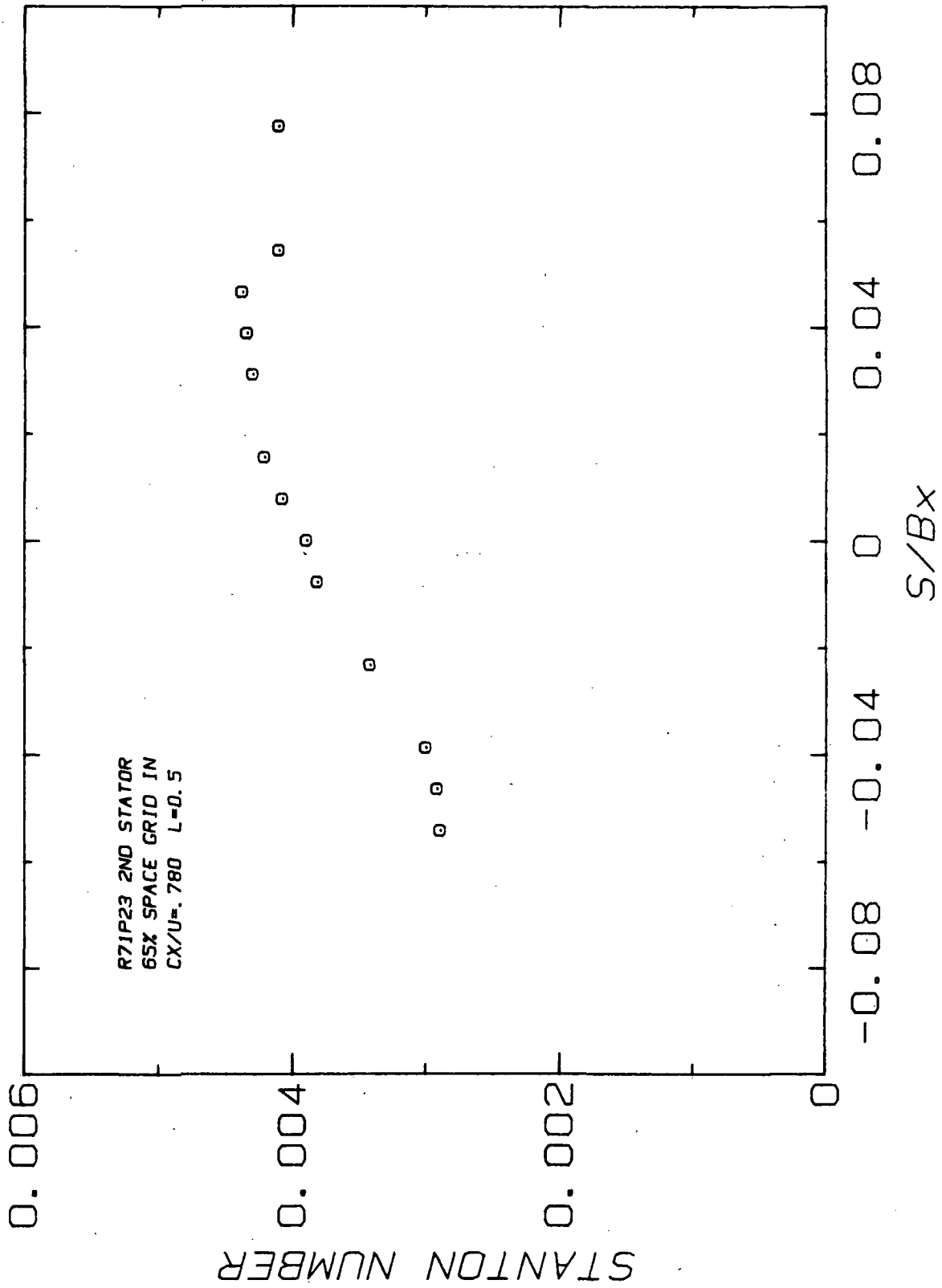
S/BX = -0.30998						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
64	4.50	75.0	0.001682	752.4	81.2	27.3
65	4.00	66.7	0.002177	973.8	70.0	21.1
68	2.50	41.7	0.002116	946.5	71.1	21.7
70	1.50	25.0	0.002504	1120.0	65.0	18.3

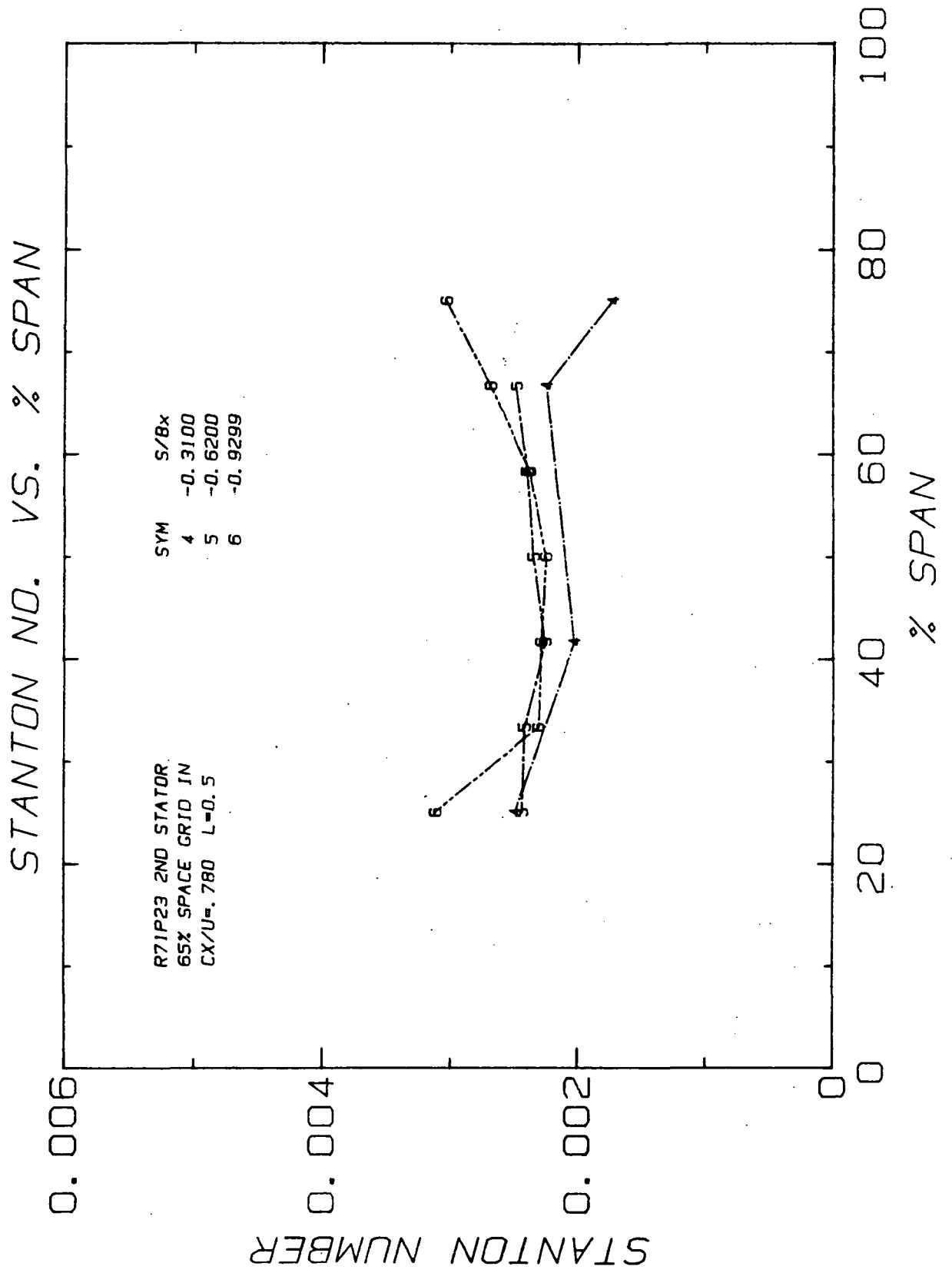
S/BX = -0.61996						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
75	4.00	66.7	0.002445	1093.8	65.8	18.8
76	3.50	58.3	0.002351	1051.6	67.2	19.5
77	3.00	50.0	0.002304	1030.7	67.9	19.9
78	2.50	41.7	0.002304	1030.9	67.9	19.9
79	2.00	33.3	0.002478	1108.8	65.4	18.5
80	1.50	25.0	0.002468	1104.2	65.5	18.6

S/BX = -0.92994						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
84	4.50	75.0	0.003050	1364.5	59.0	15.0
85	4.00	66.7	0.002609	1167.0	63.6	17.6
86	3.50	58.3	0.002297	1027.5	68.0	20.0
87	3.00	50.0	0.002241	1002.7	68.8	20.5
88	2.50	41.7	0.002334	1044.0	67.4	19.7
89	2.00	33.3	0.002338	1045.9	67.3	19.6
90	1.50	25.0	0.002989	1337.2	59.6	15.3

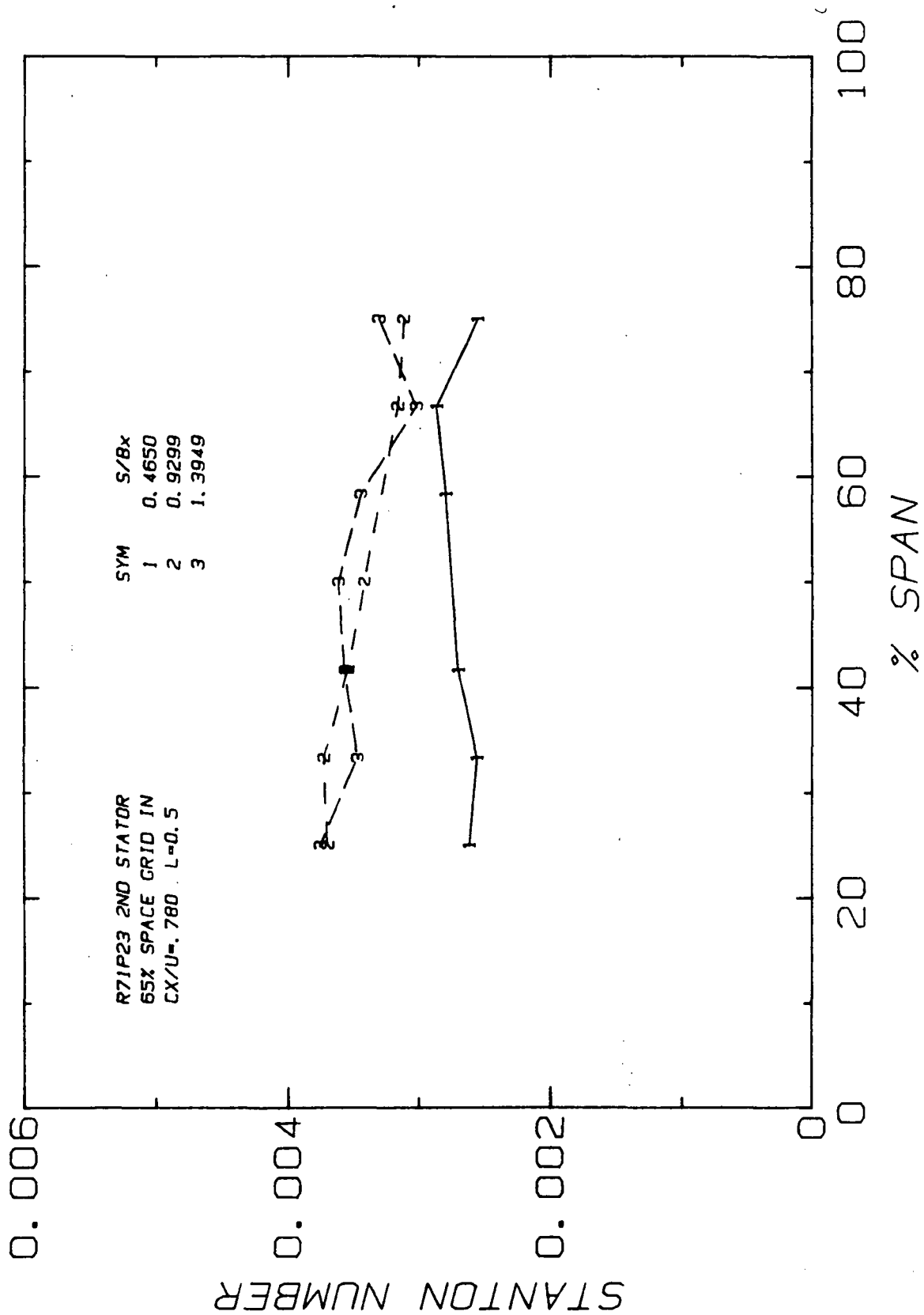


BLOW-UP OF STANTON NO.





STANTON NO. VS. % SPAN



ORIGINAL PAGE IS
OF POOR QUALITY

2ND STATOR (L=0.5) CX/U=.780 GRID IN 55% SPACING

MIDSPAN HEAT TRANSFER

RUN: 71 POINT: 23

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	RX
ENGLISH	33.5	174.9	0.0771	0.01414	0.2760	6.452
SI	0.8	53.3	1.2351	0.02446	3.1323	16.388

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/RX	ST	NU	TWALL (F)	INALL (C)
1	10.50	1.627	0.003698	1638.4	56.9	13.8
2	10.00	1.550	0.003583	1587.0	57.6	14.2
3	9.50	1.472	0.003579	1585.5	57.7	14.3
7	9.00	1.395	0.003614	1601.1	57.4	14.1
11	8.50	1.317	0.003569	1581.4	57.7	14.3
12	8.00	1.240	0.003565	1579.4	57.7	14.3
13	7.50	1.162	0.003653	1618.6	57.1	13.9
14	7.00	1.085	0.003670	1629.4	56.9	13.8
15	6.50	1.007	0.003473	1538.6	58.2	14.6
19	6.00	0.930	0.003417	1513.7	58.6	14.8
23	5.50	0.852	0.003501	1551.2	58.0	14.5
24	5.00	0.775	0.003339	1477.3	59.2	15.1
25	4.50	0.697	0.003586	1588.9	57.5	14.1
27	3.50	0.542	0.003646	1615.3	57.1	13.9
36	2.00	0.310	0.002582	1144.1	66.6	19.2
37	1.50	0.232	0.002694	1193.7	65.2	18.4
39	0.50	0.077	0.004104	1818.3	54.5	12.5
42	0.35	0.054	0.004103	1817.8	54.4	12.5
43	0.30	0.046	0.004380	1940.4	53.1	11.7
44	0.25	0.039	0.004343	1924.0	53.3	11.8
45	0.20	0.031	0.004303	1906.4	53.5	11.9
47	0.10	0.015	0.004213	1866.8	54.0	12.2
48	0.05	0.008	0.004073	1804.6	54.7	12.6
49	0.00	0.000	0.003891	1723.9	55.6	13.1
50	-0.05	-0.008	0.003809	1687.4	56.1	13.4
52	-0.15	-0.023	0.003413	1511.9	58.6	14.8
54	-0.25	-0.039	0.002995	1327.1	62.0	16.7
55	-0.30	-0.046	0.002910	1289.1	62.8	17.1
56	-0.35	-0.054	0.002885	1278.3	63.0	17.2
60	-0.75	-0.116	0.002540	1125.3	66.9	19.4
62	-1.25	-0.194	0.002057	911.5	74.7	23.7
63	-1.50	-0.232	0.002004	888.0	75.7	24.3
71	-2.50	-0.387	0.002111	935.4	73.6	23.1
72	-3.00	-0.465	0.002121	939.7	73.4	23.0
73	-3.50	-0.542	0.002264	1003.1	70.9	21.6
77	-4.00	-0.620	0.002348	1040.2	69.6	20.9
81	-4.50	-0.697	0.002305	1021.0	70.3	21.3
82	-5.00	-0.775	0.002236	990.8	71.3	21.3
83	-5.50	-0.852	0.002180	965.7	72.2	22.4
87	-6.00	-0.930	0.002248	996.0	71.1	21.7
91	-6.50	-1.007	0.002232	987.0	71.3	21.8
92	-7.00	-1.085	0.002356	1043.9	69.4	20.8
93	-7.50	-1.162	0.002611	1156.6	66.0	18.9

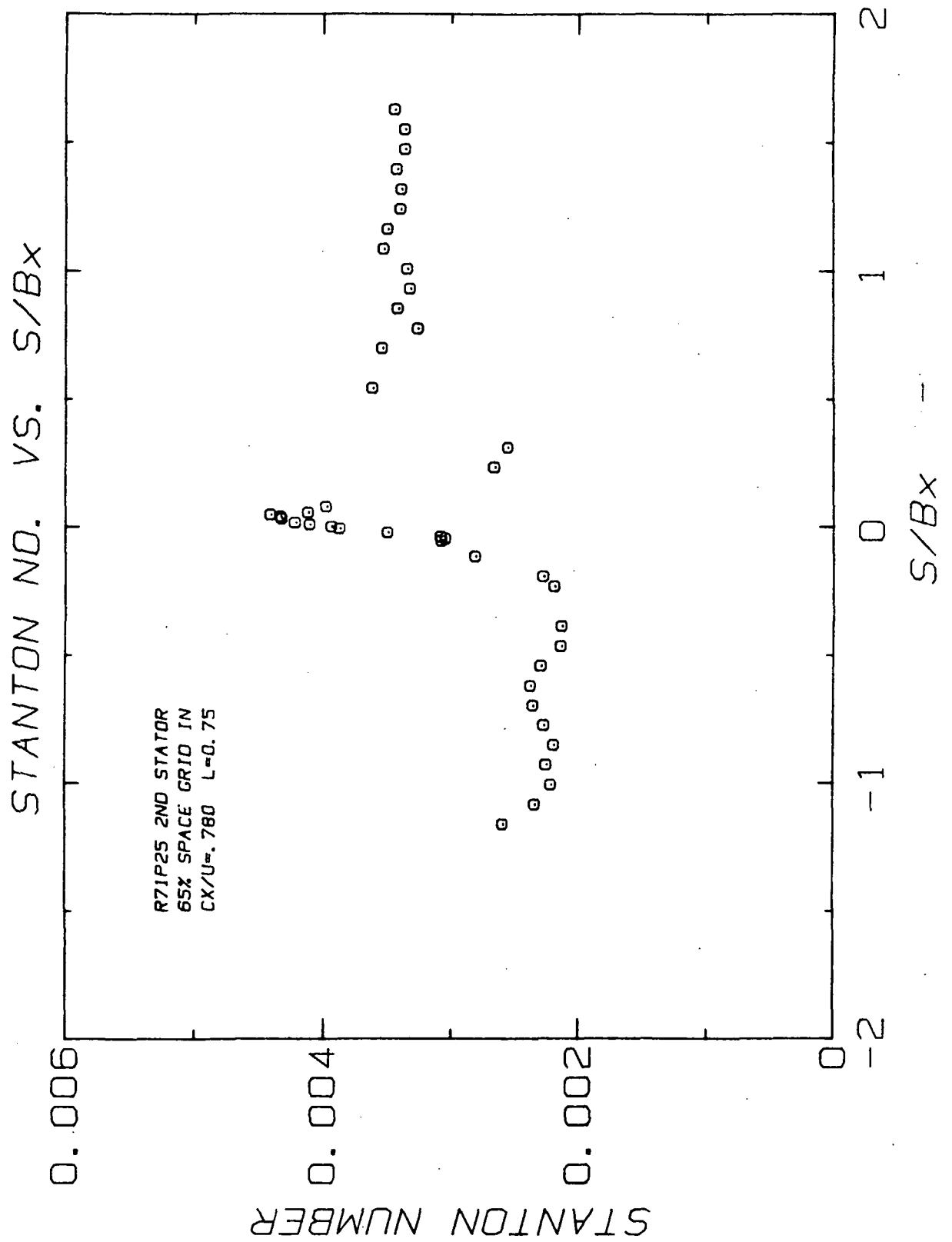
SPANWISE HEAT TRANSFER

RUN: 71 PDINT: 23

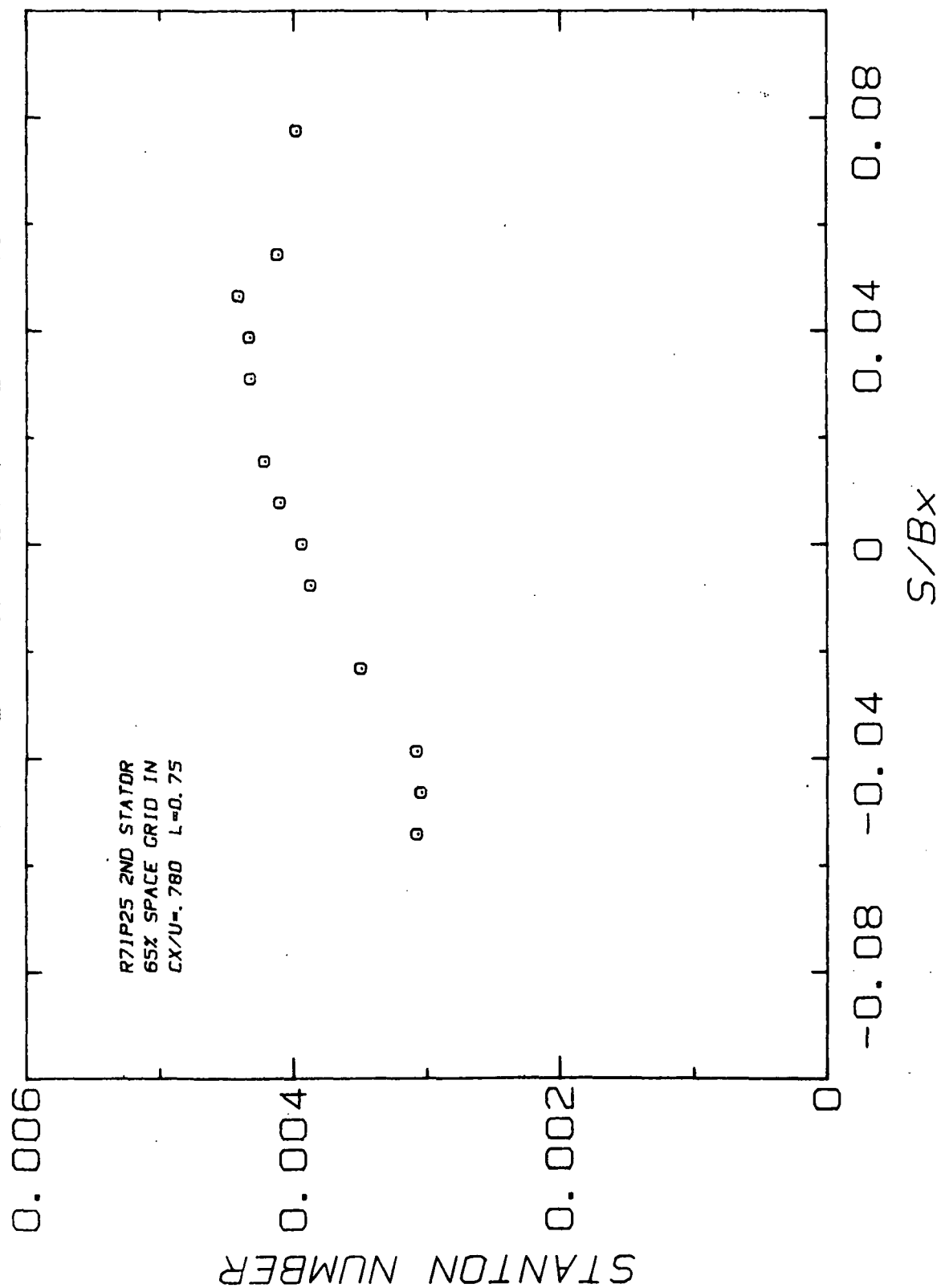
SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	33.5	174.9	0.0771	0.01414	0.2760	6.452
SI	0.8	53.3	1.2351	0.02446	3.1323	16.388

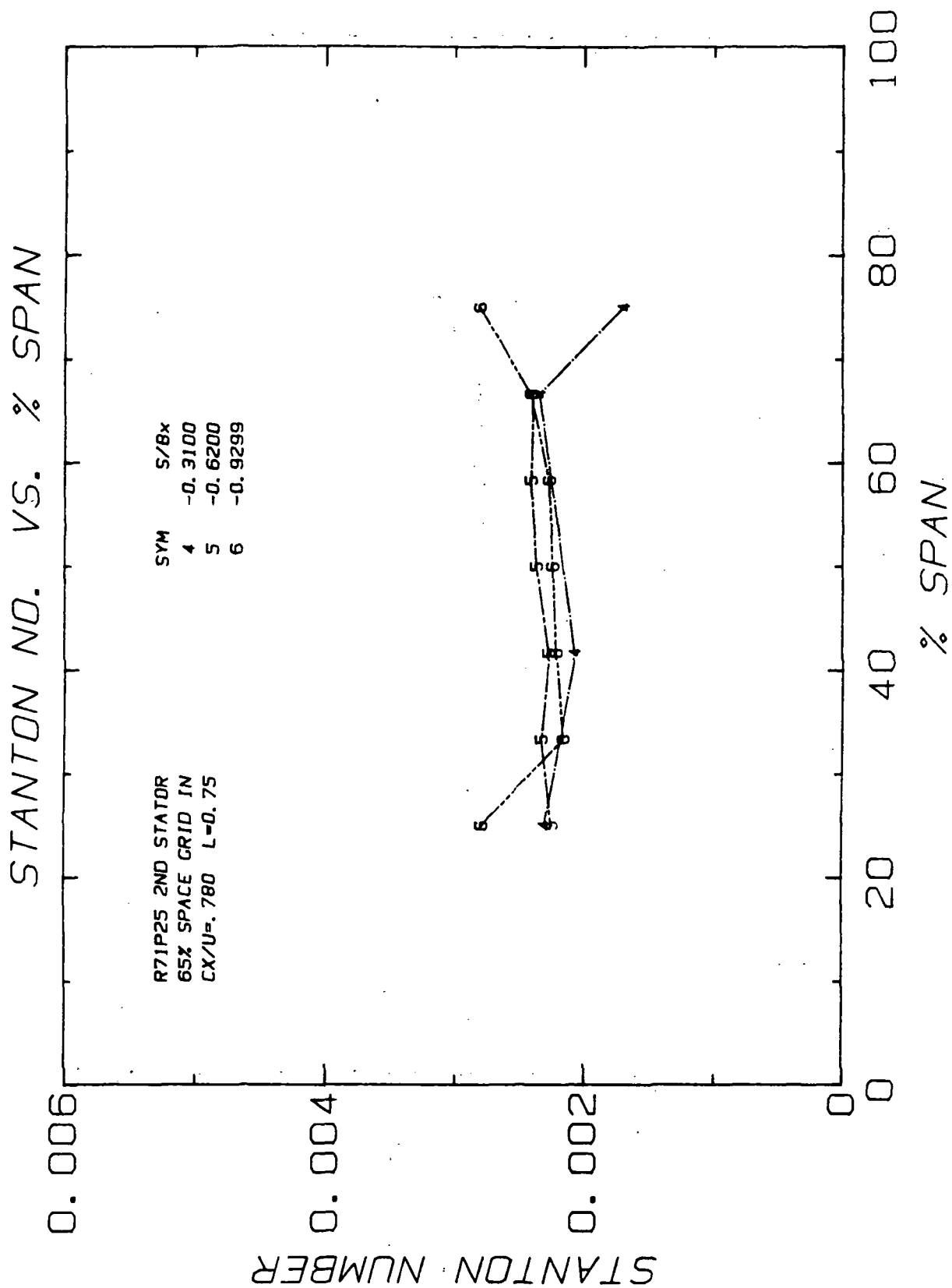
FOR UNITS SEE NOMENCLATURE

=====						
S/BX = 0.46497						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
28	4.50	75.0	0.002549	1129.2	67.0	19.4
29	4.00	66.7	0.002861	1267.4	63.4	17.4
30	3.50	58.3	0.002792	1237.0	64.1	17.8
32	2.50	41.7	0.002696	1194.5	65.2	18.4
33	2.00	33.3	0.002551	1130.1	67.0	19.4
34	1.50	25.0	0.002613	1157.8	66.2	19.0
=====						
S/BX = 0.92994						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
16	4.50	75.0	0.003116	1380.6	61.0	16.1
17	4.00	66.7	0.003161	1400.4	60.6	15.9
19	3.00	50.0	0.003417	1513.7	58.6	14.8
20	2.50	41.7	0.003543	1569.7	57.8	14.3
21	2.00	33.3	0.003725	1650.4	56.6	13.7
22	1.50	25.0	0.003696	1637.3	56.8	13.8
=====						
S/BX = 1.39492						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
4	4.50	75.0	0.003302	1463.1	59.6	15.3
5	4.00	66.7	0.003014	1335.2	62.0	16.7
6	3.50	58.3	0.003443	1525.4	58.6	14.8
7	3.00	50.0	0.003614	1601.1	57.4	14.1
8	2.50	41.7	0.003561	1577.6	57.7	14.3
9	2.00	33.3	0.003467	1535.9	58.4	14.7
10	1.50	25.0	0.003755	1663.7	56.5	13.6
=====						
S/BX = -0.30998						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
64	4.50	75.0	0.001726	764.8	82.2	27.9
65	4.00	66.7	0.002246	995.2	71.2	21.8
68	2.50	41.7	0.002023	896.4	75.3	24.0
70	1.50	25.0	0.002492	1104.2	67.6	19.8
=====						
S/BX = -0.61996						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
75	4.00	66.7	0.002481	1099.1	67.7	19.9
76	3.50	58.3	0.002393	1060.2	69.0	20.5
77	3.00	50.0	0.002348	1040.2	69.6	20.9
78	2.50	41.7	0.002253	998.2	71.1	21.7
79	2.00	33.3	0.002418	1071.3	68.6	20.3
80	1.50	25.0	0.002436	1079.1	68.4	20.2
=====						
S/BX = -0.92994						
TC#	Y (IN.)	% SPAN	ST	NU	TWALL (F)	TWALL (C)
84	4.50	75.0	0.003035	1344.6	61.0	16.5
85	4.00	66.7	0.002687	1190.3	65.1	18.4
86	3.50	58.3	0.002373	1051.3	69.2	20.7
87	3.00	50.0	0.002248	996.0	71.1	21.7
88	2.50	41.7	0.002285	1012.3	70.5	21.4
89	2.00	33.3	0.002308	1022.7	70.1	21.2
90	1.50	25.0	0.003117	1381.0	60.9	16.1
=====						

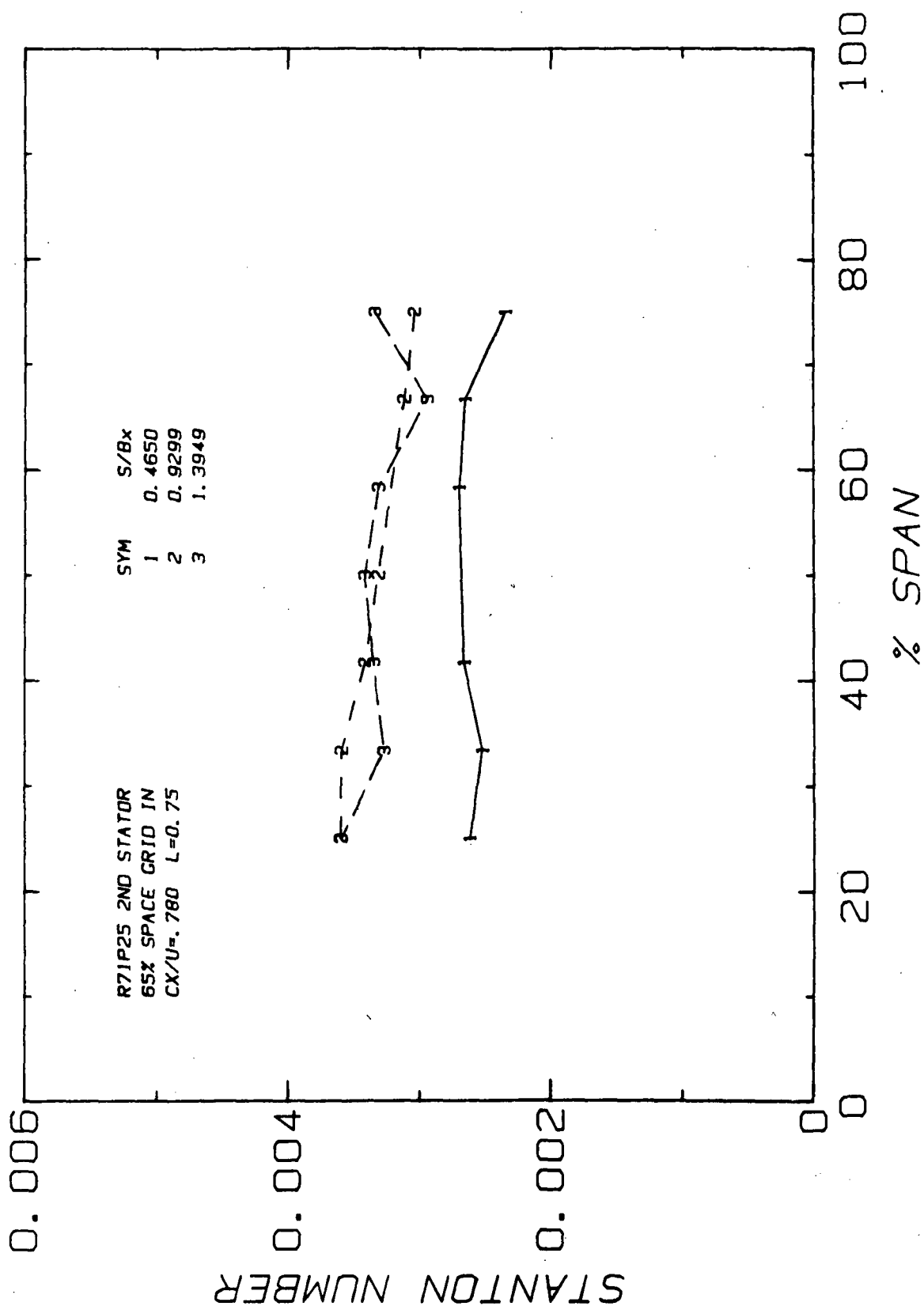


BLOW-UP OF STANTON NO.





STANTON NO. VS. % SPAN



ORIGINAL PAGE IS
OF POOR QUALITY

2ND STATOR (L=0.75) CX/U=.780 GRID IN 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 71 POINT: 25

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	34.3	174.7	0.0770	0.01416	0.2890	6.452
SI	1.3	53.2	1.2334	0.02449	3.2799	16.388

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	10.50	1.627	0.003434	1515.1	60.7	15.9
2	10.00	1.550	0.003354	1480.1	61.3	16.3
3	9.50	1.472	0.003351	1478.8	61.4	16.3
7	9.00	1.395	0.003418	1508.0	60.8	16.0
11	8.50	1.317	0.003383	1492.6	61.1	16.1
12	8.00	1.240	0.003393	1497.3	61.0	16.1
13	7.50	1.162	0.003494	1541.5	60.2	15.7
14	7.00	1.085	0.003524	1554.8	60.0	15.5
15	6.50	1.007	0.003336	1471.8	61.4	16.3
19	6.00	0.930	0.003312	1461.6	61.6	16.4
23	5.50	0.852	0.003412	1505.4	60.8	16.0
24	5.00	0.775	0.003253	1435.4	62.0	16.7
25	4.50	0.697	0.003533	1558.8	59.9	15.5
27	3.50	0.542	0.003610	1592.8	59.3	15.2
36	2.00	0.310	0.002543	1122.3	69.6	20.9
37	1.50	0.232	0.002656	1171.7	68.1	20.0
39	0.50	0.077	0.003969	1751.3	57.1	13.9
42	0.35	0.054	0.004111	1814.0	56.3	13.5
43	0.30	0.046	0.004404	1943.3	54.8	12.7
44	0.25	0.039	0.004322	1907.0	55.2	12.9
45	0.20	0.031	0.004312	1902.6	55.3	12.9
47	0.10	0.015	0.004209	1857.3	55.8	13.2
48	0.05	0.008	0.004095	1806.7	56.4	13.6
49	0.00	0.000	0.003926	1732.5	57.3	14.1
50	-0.05	-0.008	0.003862	1704.1	57.7	14.3
52	-0.15	-0.023	0.003488	1539.0	60.1	15.6
54	-0.25	-0.039	0.003073	1355.8	63.5	17.5
55	-0.30	-0.046	0.003035	1349.3	63.8	17.7
56	-0.35	-0.054	0.003066	1353.0	63.6	17.5
60	-0.75	-0.116	0.002805	1237.7	66.2	19.0
62	-1.25	-0.194	0.002266	999.9	73.7	23.2
63	-1.50	-0.232	0.002180	961.7	75.2	24.0
71	-2.50	-0.387	0.002119	935.1	76.3	24.6
72	-3.00	-0.465	0.002126	938.0	76.2	24.5
73	-3.50	-0.542	0.002283	1007.3	73.3	23.0
77	-4.00	-0.620	0.002365	1043.5	72.0	22.2
81	-4.50	-0.697	0.002344	1034.5	72.3	22.4
82	-5.00	-0.775	0.002259	996.5	73.7	23.2
83	-5.50	-0.852	0.002181	962.2	75.0	23.9
87	-6.00	-0.930	0.002240	988.4	74.0	23.3
91	-6.50	-1.007	0.002201	971.3	74.6	23.7
92	-7.00	-1.085	0.002327	1026.7	72.5	22.5
93	-7.50	-1.162	0.002586	1141.0	68.7	20.4

SPANWISE HEAT TRANSFER

RUN: 71

POINT: 25

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	34.3	174.7	0.0770	0.01416	0.2890	6.152
SI	1.3	53.2	1.2334	0.02449	3.2799	16.388

FOR UNITS SEE NOMENCLATURE

ORIGINAL PAGE IS
OF POOR QUALITY

S/BX = 0.46497

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
28	4.50	75.0	0.002348	1035.9	72.5	22.5
29	4.00	66.7	0.002654	1170.8	68.2	20.1
30	3.50	58.3	0.002697	1189.9	67.6	19.8
32	2.50	41.7	0.002659	1173.1	68.1	20.1
33	2.00	33.3	0.002520	1112.1	69.9	21.1
34	1.50	25.0	0.002619	1155.5	68.6	20.3

S/BX = 0.92994

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
16	4.50	75.0	0.003041	1342.0	63.9	17.7
17	4.00	66.7	0.003118	1375.7	63.2	17.3
19	3.00	50.0	0.003312	1461.6	61.6	16.4
20	2.50	41.7	0.003414	1506.4	60.8	16.0
21	2.00	33.3	0.003594	1586.0	59.5	15.3
22	1.50	25.0	0.003605	1590.7	59.4	15.2

S/BX = 1.39492

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
4	4.50	75.0	0.003337	1472.6	61.4	16.4
5	4.00	66.7	0.002941	1297.7	65.0	18.3
6	3.50	58.3	0.003308	1459.6	61.7	16.5
7	3.00	50.0	0.003418	1508.0	60.8	16.0
8	2.50	41.7	0.003342	1474.8	61.4	16.3
9	2.00	33.3	0.003267	1441.5	62.0	16.7
10	1.50	25.0	0.003598	1587.6	59.5	15.3

S/BX = -0.30998

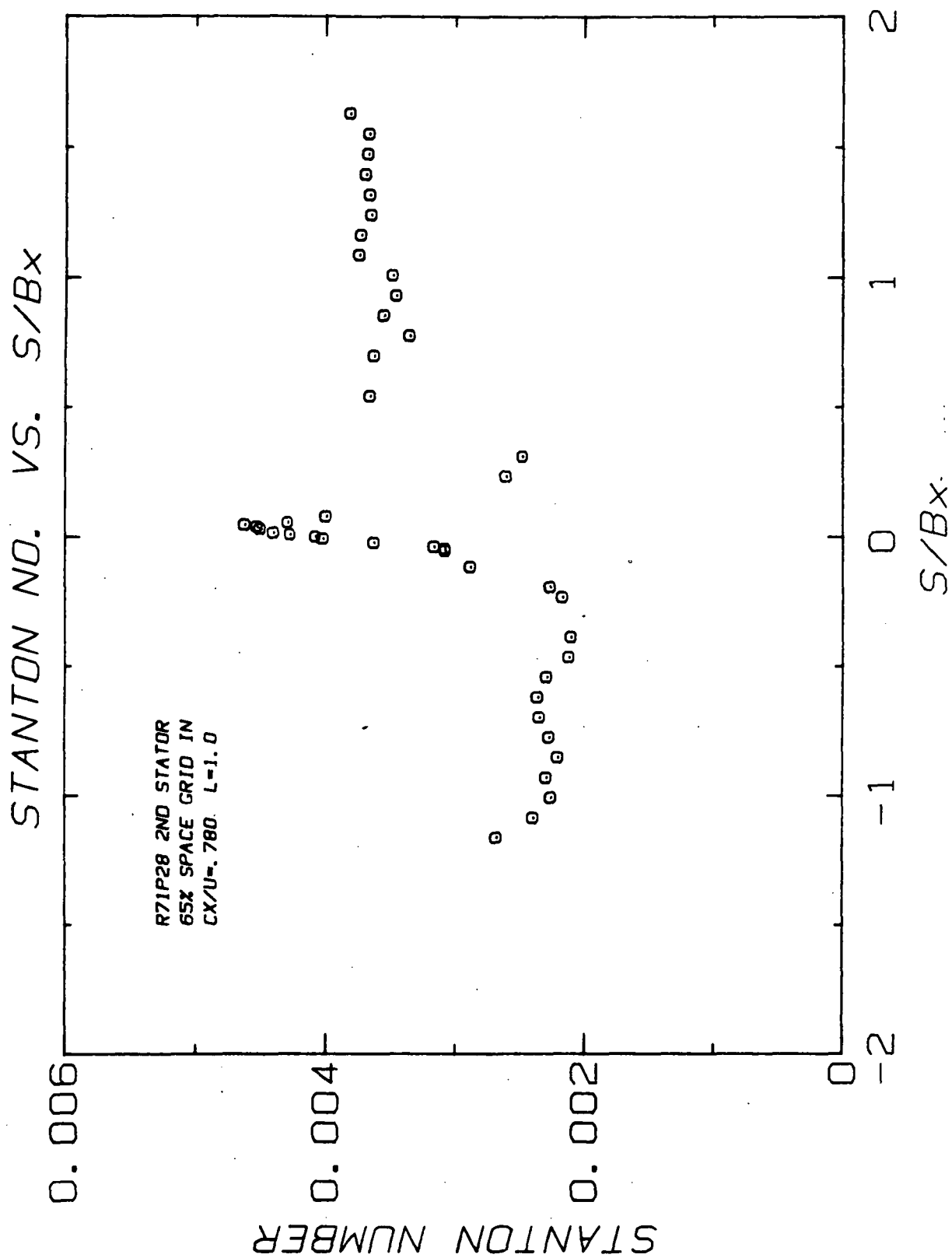
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
64	4.50	75.0	0.001696	748.2	86.4	30.2
65	4.00	66.7	0.002344	1034.2	72.4	22.4
68	2.50	41.7	0.002067	911.8	77.3	25.2
70	1.50	25.0	0.002300	1014.8	73.1	22.8

S/BX = -0.61996

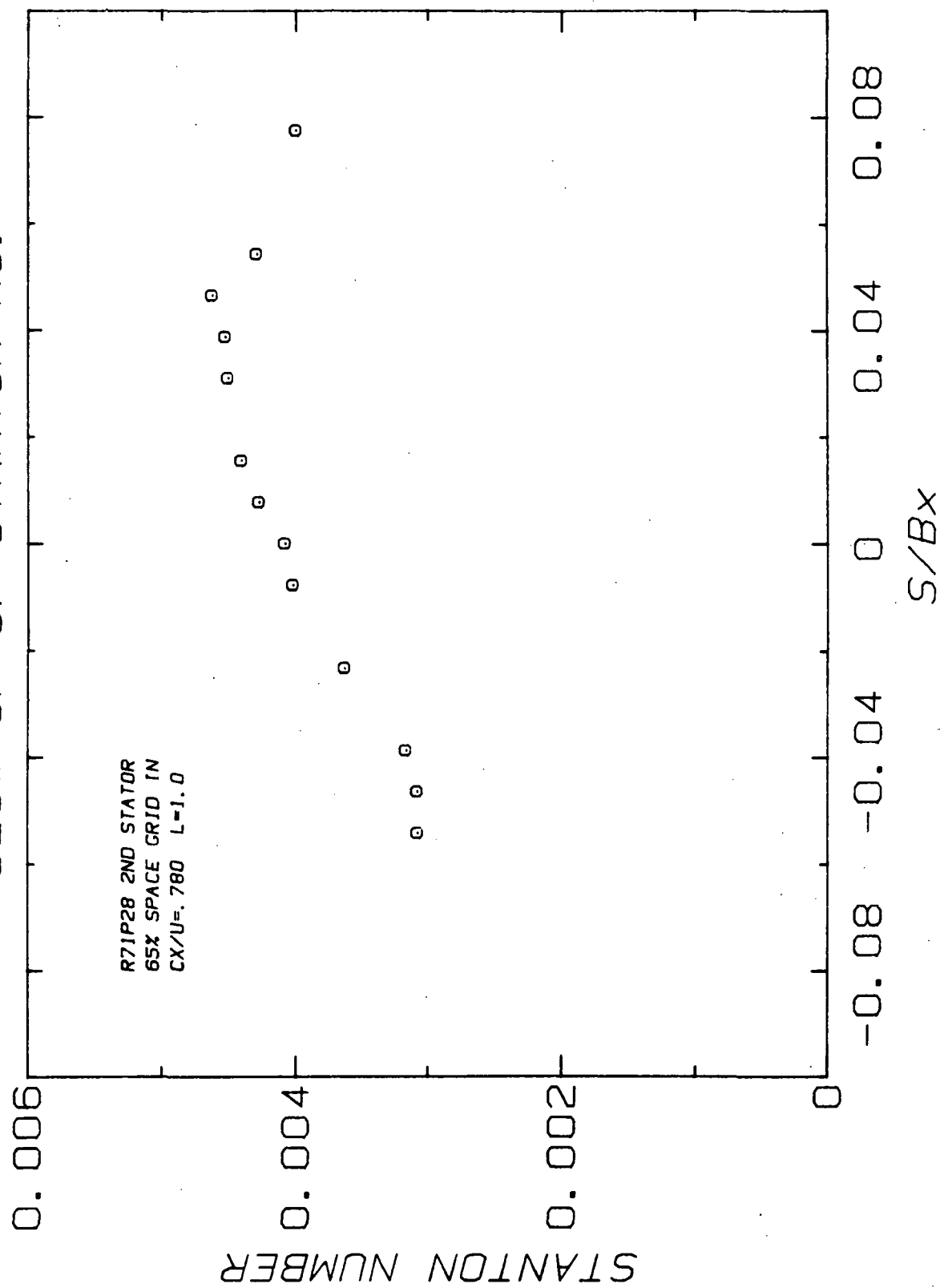
TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
75	4.00	66.7	0.002396	1057.2	71.5	22.0
76	3.50	58.3	0.002409	1063.1	71.3	21.9
77	3.00	50.0	0.002365	1043.5	72.0	22.2
78	2.50	41.7	0.002267	1000.1	73.6	23.1
79	2.00	33.3	0.002327	1026.7	72.6	22.6
80	1.50	25.0	0.002243	989.6	74.0	23.3

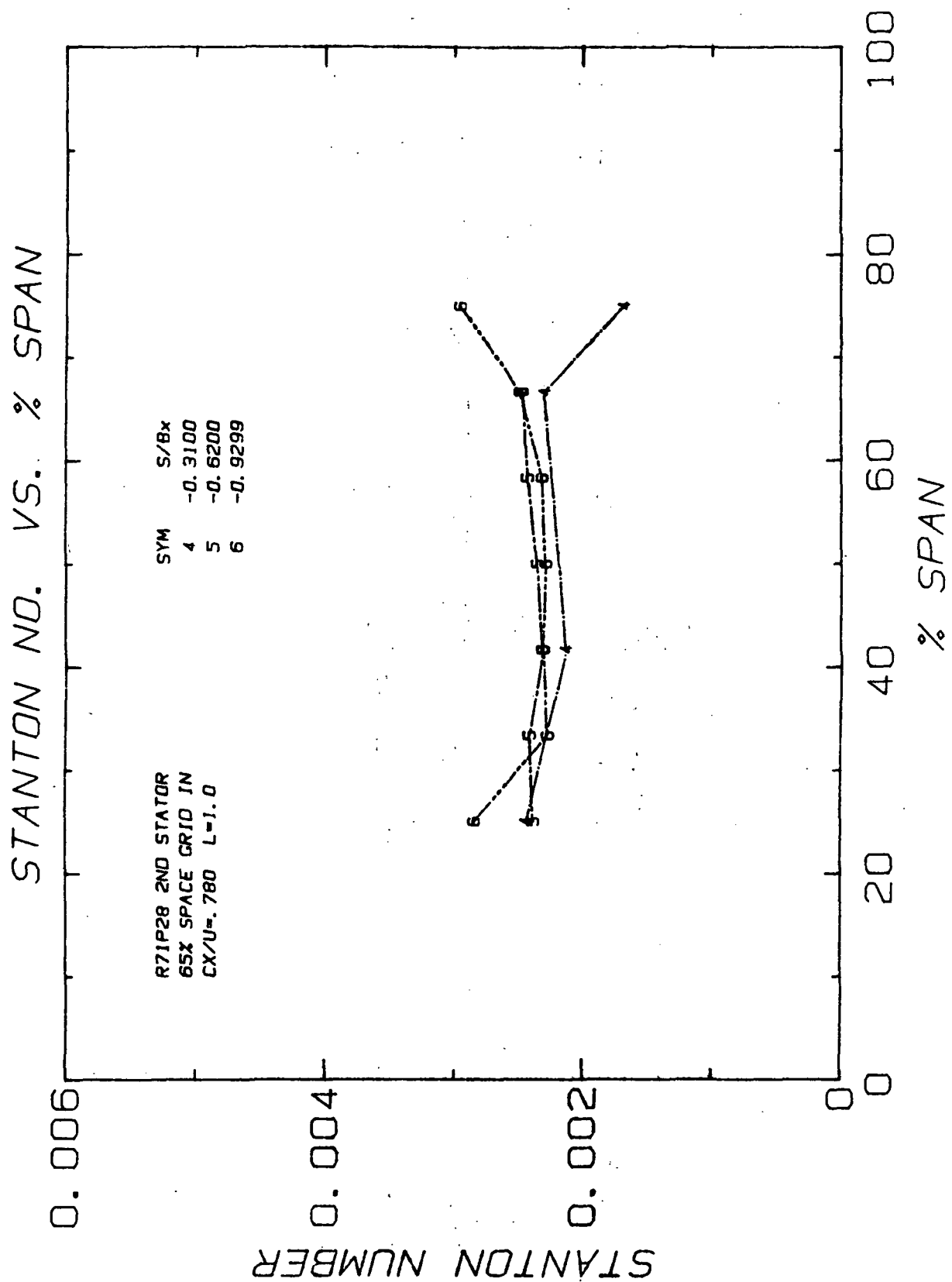
S/BX = -0.92994

TC#	Y (IN.)	X SPAN	ST	NU	TWALL (F)	TWALL (C)
84	4.50	75.0	0.002809	1249.3	66.2	19.0
85	4.00	66.7	0.002410	1063.4	71.3	21.8
86	3.50	58.3	0.002267	1000.3	73.5	23.1
87	3.00	50.0	0.002240	988.4	74.0	23.3
88	2.50	41.7	0.002210	975.3	74.5	23.6
89	2.00	33.3	0.002157	951.0	75.4	24.1
90	1.50	25.0	0.002794	1232.7	66.3	19.1

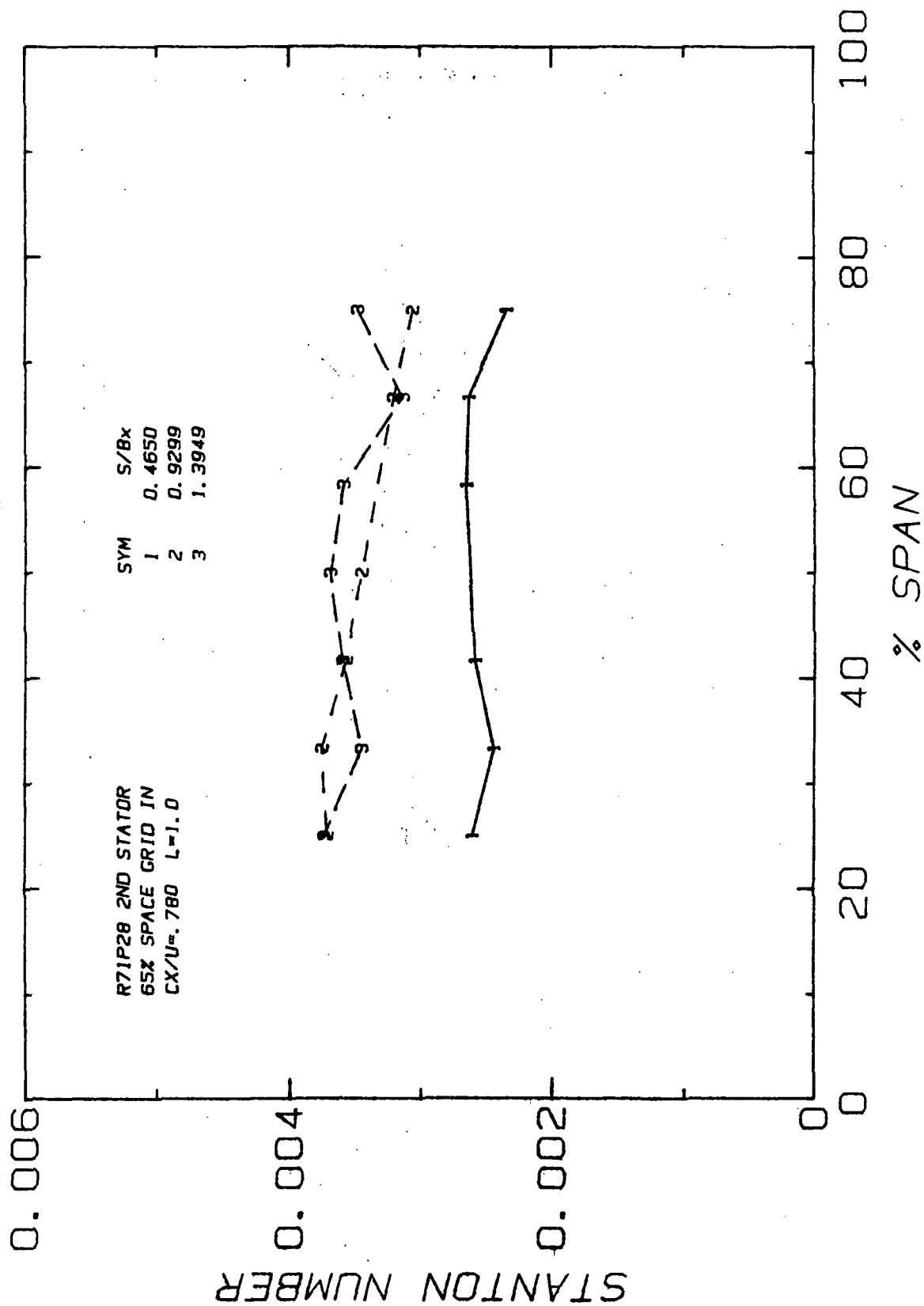


BLOW-UP OF STANTON NO.





STANTON NO. VS. % SPAN



ORIGINAL PAGE IS
OF POOR QUALITY

2ND STATOR (L=1.0) CX/U=.780 GRID IN 65% SPACING

MIDSPAN HEAT TRANSFER

RUN: 71 POINT: 28

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NON	BX
ENGLISH	35.0	174.9	0.0769	0.01417	0.2750	6.452
SI	1.7	53.3	1.2316	0.02451	3.1210	16.388

FOR UNITS SEE NOMENCLATURE

TC#	S (IN.)	S/BX	ST	NU	TWALL (F)	TWALL (C)
1	10.50	1.627	0.003807	1678.9	57.6	11.2
2	10.00	1.550	0.003659	1613.4	58.5	14.7
3	9.50	1.472	0.003669	1618.0	58.5	14.7
7	9.00	1.395	0.003687	1625.8	58.3	14.6
11	8.50	1.317	0.003654	1611.2	58.5	14.7
12	8.00	1.240	0.003646	1607.7	58.6	14.8
13	7.50	1.162	0.003723	1641.8	58.1	14.5
14	7.00	1.085	0.003737	1647.0	58.0	14.4
15	6.50	1.007	0.003480	1534.5	59.6	15.3
19	6.00	0.930	0.003452	1522.1	59.8	15.4
23	5.50	0.852	0.003549	1565.1	59.1	15.1
24	5.00	0.775	0.003346	1475.3	60.6	15.9
25	4.50	0.697	0.003621	1596.6	58.6	14.8
27	3.50	0.542	0.003652	1610.5	58.4	14.7
36	2.00	0.310	0.002473	1090.6	69.4	20.8
37	1.50	0.232	0.002607	1149.5	67.6	19.8
39	0.50	0.077	0.003993	1760.9	56.5	13.6
42	0.35	0.054	0.004288	1890.6	55.0	12.8
43	0.30	0.046	0.004621	2037.7	53.6	12.0
44	0.25	0.039	0.004525	1995.1	54.0	12.2
45	0.20	0.031	0.004503	1985.7	54.1	12.3
47	0.10	0.015	0.004402	1941.1	54.5	12.5
48	0.05	0.008	0.004269	1882.4	55.1	12.8
49	0.00	0.000	0.004076	1797.1	56.0	13.4
50	-0.05	-0.008	0.004016	1770.8	56.4	13.5
52	-0.15	-0.023	0.003622	1597.2	58.6	14.8
54	-0.25	-0.039	0.003158	1392.5	61.9	16.6
55	-0.30	-0.046	0.003073	1355.0	62.7	17.0
56	-0.35	-0.054	0.003071	1354.0	62.7	17.0
60	-0.75	-0.116	0.002876	1268.3	64.5	18.1
62	-1.25	-0.194	0.002260	996.5	72.4	22.5
63	-1.50	-0.232	0.002166	955.0	74.0	23.3
71	-2.50	-0.387	0.002096	924.0	75.2	24.0
72	-3.00	-0.465	0.002115	932.8	74.8	23.8
73	-3.50	-0.542	0.002288	1009.0	71.9	22.2
77	-4.00	-0.620	0.002356	1049.0	70.9	21.6
81	-4.50	-0.697	0.002340	1032.0	71.1	21.7
82	-5.00	-0.775	0.002265	998.9	72.2	22.3
83	-5.50	-0.852	0.002200	970.0	73.2	22.9
87	-6.00	-0.930	0.002289	1009.5	71.8	22.1
91	-6.50	-1.007	0.002252	993.0	72.3	22.4
92	-7.00	-1.085	0.002391	1054.2	70.2	21.2
93	-7.50	-1.162	0.002680	1181.7	66.5	19.2

ORIGINAL PAGE IS
OF POOR QUALITY

2ND STATOR (L=1.0) CX/U=.780

GRID IN

65% SPACING

SPANWISE HEAT TRANSFER


RUN: 71

POINT: 28

SYSTEM OF UNITS	TT	U-EXIT	RHO-EXIT	K	Q-NOM	BX
ENGLISH	35.0	174.9	0.0769	0.01417	0.2750	6.452
SI	1.7	53.3	1.2316	0.02451	3.1210	16.388

FOR UNITS SEE NOMENCLATURE

=====						
S/BX = 0.46497						
TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
28	4.50	75.0	0.002339	1031.4	71.3	21.8
29	4.00	66.7	0.002631	1160.1	67.3	19.6
30	3.50	58.3	0.002651	1168.8	67.1	19.5
32	2.50	41.7	0.002583	1139.0	67.9	20.0
33	2.00	33.3	0.002437	1074.4	69.9	21.0
34	1.50	25.0	0.002605	1148.5	67.7	19.8
=====						
S/BX = 0.92994						
TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
16	4.50	75.0	0.003060	1349.2	62.9	17.2
17	4.00	66.7	0.003204	1412.6	61.7	16.5
19	3.00	50.0	0.003452	1522.1	59.8	15.4
20	2.50	41.7	0.003571	1574.4	59.0	15.0
21	2.00	33.3	0.003751	1653.8	57.8	14.4
22	1.50	25.0	0.003712	1636.7	58.1	14.5
=====						
S/BX = 1.39492						
TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
4	4.50	75.0	0.003477	1533.1	59.7	15.4
5	4.00	66.7	0.003132	1381.2	62.4	16.9
6	3.50	58.3	0.003586	1581.0	59.0	15.0
7	3.00	50.0	0.003687	1625.0	58.3	14.6
8	2.50	41.7	0.003591	1583.7	58.9	15.0
9	2.00	33.3	0.003447	1519.9	59.9	15.5
10	1.50	25.0	0.003735	1646.7	58.0	14.5
=====						
S/BX = -0.30998						
TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
64	4.50	75.0	0.001677	749.5	84.9	25.4
65	4.00	66.7	0.002300	1014.2	71.7	22.1
68	2.50	41.7	0.002129	948.0	74.6	23.7
70	1.50	25.0	0.002437	1074.8	69.7	21.0
=====						
S/BX = -0.61996						
TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
75	4.00	66.7	0.002469	1088.6	69.3	20.7
76	3.50	58.3	0.002432	1072.4	69.8	21.0
77	3.00	50.0	0.002356	1039.0	70.9	21.6
78	2.50	41.7	0.002312	1019.6	71.5	22.0
79	2.00	33.3	0.002413	1064.1	70.0	21.1
80	1.50	25.0	0.002383	1050.6	70.5	21.4
=====						
S/BX = -0.92994						
TC#	Y (IN.)	Z SPAN	ST	NU	TWALL (F)	TWALL (C)
84	4.50	75.0	0.002958	1304.5	63.7	17.6
85	4.00	66.7	0.002488	1097.2	68.9	20.5
86	3.50	58.3	0.002317	1021.7	71.4	21.9
87	3.00	50.0	0.002289	1009.5	71.8	22.1
88	2.50	41.7	0.002305	1016.4	71.5	22.0
89	2.00	33.3	0.002273	1002.1	72.0	22.2
90	1.50	25.0	0.002849	1256.3	64.8	18.2
=====						

1. Report No. NASA CR-179468		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle The Effects of Inlet Turbulence and Rotor/Stator Interactions on the Aerodynamics and Heat Transfer of a Large-Scale Rotating Turbine Model III - Heat Transfer Data Tabulation 65% Axial Spacing				5. Report Date May 1986	
				6. Performing Organization Code	
7. Author(s) R.P. Dring, M.F. Blair, and H.D. Joslyn				8. Performing Organization Report No. UTRC-R86-956480-3	
				10. Work Unit No.	
9. Performing Organization Name and Address United Technologies Research Center Silver Lane East Hartford, Connecticut 06108				11. Contract or Grant No. NAS3-23717	
				13. Type of Report and Period Covered Contractor Report	
12. Sponsoring Agency Name and Address National Aeronautics and Space Administration Washington, D.C. 20546				14. Sponsoring Agency Code 533-04-11	
15. Supplementary Notes Final report. Project Manager, Robert J. Simoneau, Internal Fluid Mechanics Division, NASA Lewis Research Center, Cleveland, Ohio 44135.					
16. Abstract <p>A combined experimental and analytical program was conducted to examine the effects of inlet turbulence on airfoil heat transfer. The experimental portion of the study was conducted in a large-scale (approximately 5X engine), ambient temperature, rotating turbine model configured in both single stage and stage-and-a-half arrangements. Heat transfer measurements were obtained using low-conductivity airfoils with miniature thermocouples welded to a thin, electrically heated surface skin. Heat transfer data were acquired for various combinations of low or high inlet turbulence intensity, flow coefficient, first-stator/rotor axial spacing, Reynolds number and relative circumferential position of the first and second stators. Aerodynamic measurements obtained as part of the program include distributions of the mean and fluctuating velocities at the turbine inlet and, for each airfoil row, midspan airfoil surface pressures and circumferential distributions of the downstream steady state pressures and fluctuating velocities. Analytical results included airfoil heat transfer predictions produced using existing two-dimensional boundary layer computation schemes and an examination of solutions of the unsteady boundary layer equations. The results of this program are reported in four separate volumes. All four have a common report title and the following volume subtitles:</p> <p>Report Title: The Effects of Inlet Turbulence and Rotor/Stator Interactions on the Aerodynamics and Heat Transfer of a Large-Scale Rotating Turbine Model</p> <p>Volume Titles: Volume I: R86-956480-1 Final Report Volume II: R86-956480-2 Heat Transfer Data Tabulation 15% Axial Spacing Volume III: R86-956480-3 Heat Transfer Data Tabulation 65% Axial Spacing Volume IV: R86-956480-4 Aerodynamic Data Tabulation</p>					
17. Key Words (Suggested by Author(s)) Heat transfer; Aerodynamics; Turbines; Rotor/stator; Turbulence; Unsteady flow; Airfoils			18. Distribution Statement 		
19. Security Classif. (of this report) Unclassified		20. Security Classif. (of this page) Unclassified		21. No. of pages	
				22. Price*	

National Aeronautics and
Space Administration

Lewis Research Center
Cleveland, Ohio 44135

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